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CONGRESSIONAL OVERSIGHT OF THE FISCAL YEAR 1995 ENVIRONMENTAL SECURITY BUDGET AND ITS IMPLICATIONS FOR THE DOD ACQUISITION PROCESS

by

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March, 1995

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ABSTRACT

This thesis examines congressional oversight of the environmental security budget of the U.S. Department of Defense. Congressional oversight profiles the formal funding categories employed by Congress, including Operations and Maintenance, Research, Development, Test and Evaluation, and Military Construction, as well as the pillar approach adopted by the Department of Defense, which uses the concepts of cleanup, compliance, conservation, and pollution prevention. Budget requests from fiscal years 1984 through 1994 are reviewed and analyzed to identify budgeting and oversight patterns. The fiscal year 1995 request for $5.7 billion is tracked through the congressional budget process. Special attention is given to the Environmental Consequences Analysis of Major Defense Acquisition Programs Act. The study finds that environmental funding increased moderately in the 1980s, then rose significantly in the early 1990s. By fiscal year 1994, the cumulative decline in total defense spending and congressional dissatisfaction with DoD environmental restoration policy ended the growth in environmental security budgets. Congress encouraged DoD to reduce environmental costs by improving, or "greening" the acquisition process. Defense environmental programs are vulnerable to reduction because they are seen as marginal to security during a period of budget austerity.

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I. INTRODUCTION

In 1969 "Buzz" Aldrin voiced those infamous words from the Moon, "This is one small step for man, one giant leap for mankind." Those words uttered over a million miles from Earth would have a significant impact on how we view ourselves and our relationship with this planet. In the subsequent flights to the Moon, one of the most endearing images were the photos of Earth from space. They depicted a fragile planet that was the life support system for all its inhabitants. These pictures showed how precious, beautiful, and dependent we are on "Spaceship Earth." The NASA Apollo Space program helped introduce and raise people's environmental awareness. In retrospect, the Apollo program sparked the environmental movement. [Ref. 1]

Since then, governments around the world have enacted numerous environmental bills and procedures. Environmental policies have helped curtail pollutants and introduce ways of manufacturing "Earth Friendly" products. However, the cost for cleaning up the mistakes of the past and restructuring current thinking about our procurement process for goods and services is not cheap.

Environmentalism has become a permanent feature of American politics. President Bush stressed that he wanted "to be known as the Environmental President." The Clinton Administration views environmental security not only as a problem facing the United States but as a potential problem that is global. Environmental problems abroad do not end on countries' borders. Environmental problems can affect economic stability and economic trade. Environmental damage caused in one country can transcend international boundaries and pose a potential health threat to world populations.

In his January 1994, State of the Union Address, President Clinton stated:

> As we protect our environment, we must invest in the environmental technologies of the future which create jobs. And of course there are still dangers in the world:...severe environmental degradation the world over...as the world's greatest power, we must therefore

> maintain our defense and our responsibilities. ...We worked to promote environmental sustainable economic growth. [Ref. 2]

While environmental protection is primarily the responsibility of the Environmental Protection Agency (EPA), other departments in the federal government, including the Department of Defense (DoD), have adopted the challenge to defend the environment. Former Secretary of Defense Les Aspin stated:

> The DoD under the Clinton Administration leadership is deeply committed to a new role as defender of our environment. To strengthen this important effort, I have established a position of Deputy Under Secretary of Defense for Environmental Security to ensure that environmental concerns become a key element of our national security. [Ref. 3]

This concern for environmental security was incorporated into the DoD acquisition process. "Where appropriate, DoD will adopt regulations that ensure protection of environmental interests while fostering a more effective and efficient acquisition process." [Ref. 4]

A. AREA OF RESEARCH AND RESEARCH QUESTIONS

This thesis examines U.S. environmental policy as it relates to the Department of Defense (DoD). The examination consists of a qualitative and quantitative analysis of the Clinton Administration's $5.7 billion Fiscal Year (FY) 1995 environmental defense budget proposal. This research tracks the proposal through the congressional budget process. Special attention is paid to the acquisition policy implications of the administration's proposal.

The primary research question is: What is the impact, within the congressional budget process, of the $5.7 billion environmental defense proposal submitted by the Clinton administration for FY 1995?

Subsidiary research questions include:

1. What are the environmental security priorities represented by the Clinton Administration's FY 1995 request for $5.7 billion for defense environmental programs?

2. What are the funding components that make up the defense environmental budget?

3. What congressional committees and subcommittees exercise budget and policy oversight over the defense environmental budget?

4. What patterns and trends of congressional support for defense environmental programs have developed over the past 11 years?

5. How did the congressional defense committees address and modify the $5.7 billion budget request?

6. What are the important differences between the Congress and the administration? What are the important differences between the House and Senate defense committees in this area?

7. What are the environmental implications for the acquisition of future weapon systems? What has DoD done in tailoring its acquisition policies to consider the environmental consequences in the life-cycle of weapon systems?

B. SCOPE AND METHODOLOGY

This thesis examines the role of the legislative and executive branches of the U.S. government in the development of DoD environmental security policy for FY 1995. It provides a background on DoD environmental policy and the impact of this policy on past and current military environmental problems.

The thesis utilizes a historical and analytical perspective to identify congressional interests and actions concerning environmental security. Data obtained from congressional hearings and legislation related to the budget process is utilized to track the Administration's proposal and the outcome in Congress. The work utilizes data developed in previous research as a baseline for evaluating congressional treatment and oversight of the DoD environmental security budget request.

The congressional oversight patterns discovered in the historical review may help forecast and explain the outcome Clinton Administration's fiscal year 1995 environmental security proposal. The author then documents the budgetary treatment within Congress of this proposal. The thesis concludes with a discussion of the lessons learned concerning the FY 1995 environmental security proposal and the future of environmental security as a factor in the acquisition process.

C. BACKGROUND

Environmental security and restoration gained increased importance within the defense budget in the 1990's. Senator Nunn addressed the growth of environmental issues in a speech on the Senate floor in 1990. In this speech he clearly outlined a new threat to American national security:

> I am persuaded that there is also a new and different threat to our national security emerging-the destruction of our environment. The defense establishment has a clear stake in countering this growing threat. I believe that one of our key national security objectives must be to reverse the accelerating pace of environmental destruction around the globe. [Ref. 5]

This speech was a harbinger of events to come, i.e., the employment of the defense establishment's diverse and unique capabilities for environmental restoration in combating this national security threat.

There were two historical events that helped propel environmental security into the spotlight as a political issue at beginning of the 1990's. The first of these occurred when Saddam Hussein demonstrated to the world that environmental disasters have no boundaries. His wanton destruction of the Kuwaiti oil fields at the close of the Gulf War in 1991 demonstrated the potential for an ecological disaster. This malicious act illustrated how dependent we are on the environment for supplying much of our vital natural resources and maintaining universal health.

As a result, the 1991 United States National Security Strategy (NSS) included the environment as an element of concern for the first time:

> We must manage the earth's natural resources in ways that protect the potential for growth and opportunity for present and for future generations. Global environmental concerns...respect no international boundaries. The stress from these environmental challenges is already contributing to political conflict. [Ref. 6]

In 1992, President Bush reiterated his growing concern for environmental security in his administration's National Security Strategy. The 1993 NSS document addressed the need for additional funding necessary for environmental security at home and around the globe. President Bush saw environmental security not as an American issue, but one that could have an effect on international relations. His concerns were that economic interests and environmental protection were partners in achieving global stability in the new world order:

> We will continue to advance international cooperation on environmental issues and support this effort with adequate funding...Economic growth and environmental protection can be made complementary objectives to be pursued together. [Ref. 7]

The second major historical event was the end of the Cold War. Many Americans hoped that a reduction in superpower hostility and a drawdown of defense dollars would shift this "Peace Dividend" to the public sector. However, this dividend has been diminished by unforeseen costs associated with defense environmental problems. The expected windfall of defense dollars from discretionary spending, once destined for social programs, may not become a reality. The curtailment of military forces and closure of military facilities has left in its wake a series of significant environmental problems.

The rise of environmental security has renewed interest not only within the academic community but also in Congress. "In 1994, the Congress authorized $5.4 billion for environmental activities, an increase of $200 million over the Administration's request." [Ref. 8]

The Clinton Administration has indicated its intention to add further resources, as environmental protection and restoration are elevated to higher priority within the DoD. Sherri W. Goodman, Deputy Under Secretary of Defense for Environmental Security, initiated an aggressive program to clean up military

bases, defense installation hazardous waste sites, and improve environmental procedures within the acquisition process. At $5.7 billion for FY 1995, the price for "greening the military" is not cheap.

The budget for environmental programs is one of the few increases in a DoD budget which has shrunk significantly over the past eight years. Defense spending intended to address environmental problems has increased noticeably during this decade. While overall, "defense spending has declined by about 15 percent since 1990, funding for environmental security programs has increased by about 290 percent." [Ref. 9]

The sheer size of the DoD land holdings makes it the largest environmental manager in the United States. DoD is responsible for over 20 million acres of land in the United states and manages roughly 2 million acres of land overseas. To put these DoD domestic land holdings in perspective, the equivalent of the entire state of Virginia is given over to military use. [Ref. 10]

The DoD environmental cleanup faces several challenges from a variety of different areas. In 1987, the Defense Environment Restoration Program (DERP) was established. Its role was to identify potential contaminated sites at military installations. The initial findings revealed 5,165 potentially contaminated sites on 739 installations. By 1993, this number had increased dramatically to 19,694 sites on 1,722 military installations in the United States. The increase in the number of potential contaminated areas was most prevalent between 1987 to 1990. Environmental impact studies, facility corrective actions and cleanup have reduced that number to 10,439 through FY 1993. [Ref. 11] Military facilities are also listed on the National Priorities List (NPL), more commonly referred to as the "Superfund" sites. Currently, there are 16 military installations proposed by the EPA as Superfund sites. Many of these sites are former hazardous munitions installations for either chemical, biological, or nuclear production or testing. The Government Accounting Office (GAO) estimates that disposal of existing stockpiles of chemical weapons has increased from $1.7 billion in 1985 to $8 billion in 1992 and the price tag is expected to increase. [Ref. 12]

The budget history of the Defense Environmental Restoration Account (DERA) represents the growing concern for DoD environmental programs. "In 1984, DoD spent $150 million on environmental restoration; in 1994, DoD will spend over $2.6 billion to clean up sites including bases under Base Realignment and Closure Accounts (BRAC)." [Ref. 13] BRAC represents a growing challenge to restore previous military installations in the United States for transfer to the private sector. The initial cleanup has been slow. "In all, about $7.9 billion -- including $6.6 Billion from DERA and $1.3 billion from BRAC have been invested in the DoD cleanup program through FY 1993." [Ref. 14]

Figure 1 indicates that more money is now being spent on actual cleanup than for site identification and analysis. This suggests that the preliminary site cleanup planning phase is concluding. Cleanup efforts will continue for military installations in the foreseeable future with BRAC 1995. Initial studies indicate that those preliminary environmental dollars will decrease for the initial research, analysis, and planning phases. The real expense begins with actual cleanup as more military installations are returned to civilian use.

Another set of environmental programs within the defense budget is Research, Development, Test, and Evaluation (RDT&E), Environmental Technology, and Environmental Prevention. These programs compete for a share of defense environmental dollars.

DoD faces several environmental challenges as the flag is furled on its vast network of military installations around the globe. The Pentagon's ecodamage is still being assessed as new contaminated hazardous waste sites are uncovered, not only in the United States but abroad. The source of funds to pay for this cleanup is unclear. The Defense Environmental Restoration Program (DERP) does not apply to foreign installations. These cleanup dollars must be taken out of Operating and Maintenance (O&M) budgets. [Ref. 15]

> Representative Dave McCurdy (D-OKLA.) believes a new round of massive environmental problems at U.S. military installations around the globe could carry a price tag similar to the Savings and Loan crisis, now estimated at $400 billion and rising...The Pentagon's

liability could extend to as many as 15,000 hazardous waste sites dirty enough to qualify for the federal `Superfund' list. [Ref. 16]

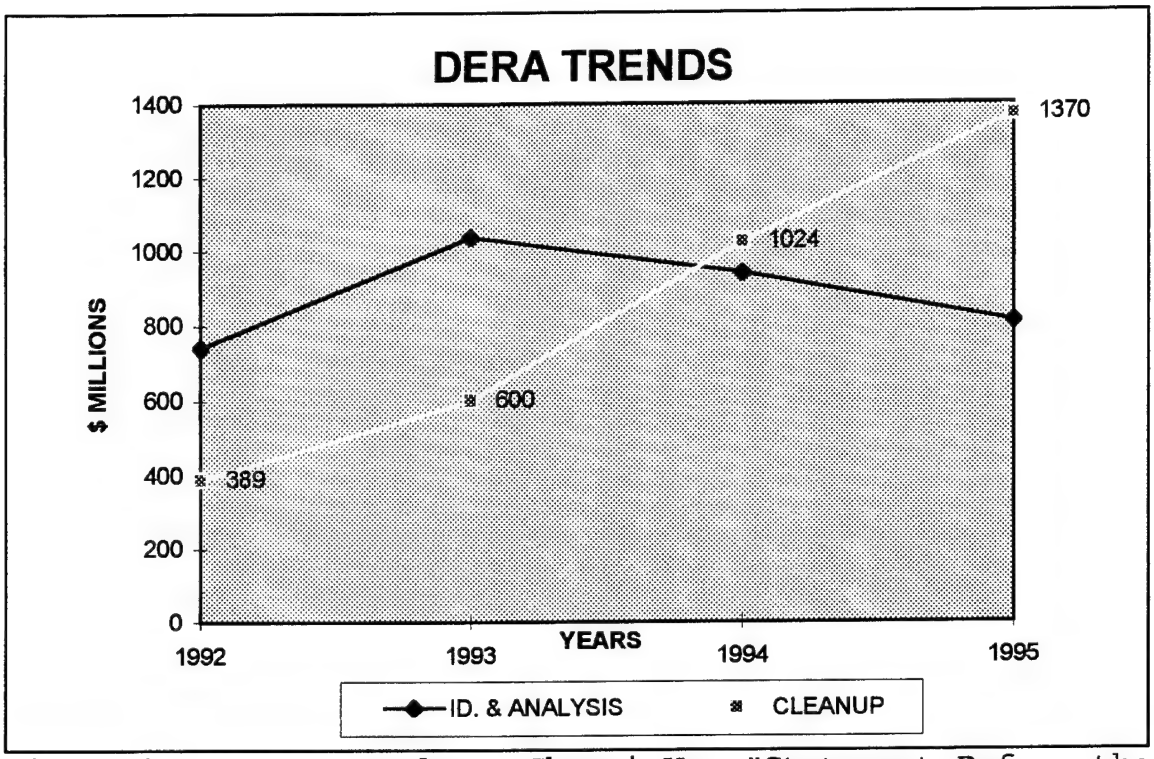

Figure 1. Source: Goodman, Sherri W., "Statement Before the Senate Appropriations Committee Subcommittee on Defense," U.S. Government Printing Office, Washington, D.C., May 17, 1994, p.4.

Environmental awareness is becoming the 'Achilles heel' of combat readiness. General Dennis J. Reimer, U.S. Forces Command, testified before a Senate subcommittee that the costs of environmental programs in his command had risen 214 percent since 1990. The costs for these programs are not funded separately, but are taken out of an O&M account that is supposed to go for military training. General Reimer stated that at U.S. Forces Command, "we spend more on environmental programs than we do on training the 1st Cav. Division." [Ref. 17]

DoD is now moving aggressively to address its environmental problems. Within the United States, the military cleanup cost may reach as much as $30 billion. DoD is crafting extensive methods for weapon acquisition reform and

research and development efforts to curtail past environmental problems. [Ref. 18] The cost to clean up the Defense Department will directly impact how the military goes about contracting, testing, and fielding of future weapon systems. Poor planning and failure to consider the environmental impact of hazardous waste produced by older weapon systems must be corrected with dollars which might have gone to procure new weapon systems.

The Clinton administration is aware of the correlation between the military and the environment. In the July 1994 National Security Strategy report, *Engagement and Enlargement,* President Clinton emphasized this partnership:

> The decisions we make today regarding military force structures typically influence our ability to respond to threats 20 to 30 years in the future. Similarly, our current decisions regarding the environment will affect the magnitude of its security risks over at least a comparable period of time, if not longer. The measures of our difficulties in the future will be settled by the steps we take in the present. [Ref. 19]

Shaping the military force and weapons of tomorrow requires multifaceted environmental planning. The extensive number of environmental laws and regulations compounds the task of fielding new weapon systems, while adding additional challenges in the retirement of older weapon systems. The key to success is to avoid environmental legal problems. Environmental legal perils result in fines and penalties which result in dollars being diverted from the procurement of new weapon systems into resolving ecological problems. Project managers must be proactive environmental planners during the Concept and Evaluation phase of a new weapons system's procurement. This planning must include the disposal and demilitarization costs for these weapons when they become obsolete as part of the system's total life cycle cost.

D. BENEFITS OF RESEARCH

This thesis is relevant in light of the size of the defense budget allocated for environmental security when other areas of defense are being curtailed. The environmental security of the nation is critical if the U.S. plans to remain a world

leader. The environmental impact of military pollutants can have a significant effect in increasing the cost of acquisition programs. The next chapter reviews several areas. The first area for review is key environmental legislation that affects DoD. The second area reviews the congressional players in the budget process. Chapter II presents a synopsis of the environmental budget history from 1984 through 1994.

II. ENVIRONMENTAL LEGISLATION AND THE CONGRESSIONAL PLAYERS

In the past decade, Congress has become increasingly interested in DoD environmental policy. Interest has centered around base closure and disposal of hazardous waste. Increased environmental legislation and subsequent Presidential Executive Orders have increased cleanup costs and focused congressional concerns. The first section of this chapter highlights key environmental legislation and how this legislation has impacted DoD's environmental responsibility and compliance with existing regulations.

A. ENVIRONMENTAL LEGISLATION: A BRIEF HISTORY

There are over sixty different federal statutes currently governing military environmental activity. DoD operations are subject to many of the same laws that govern private industry. Figure 2 illustrates the growth of environmental laws. The watershed years for environmental legislation were 1984 through 1986. The growth since then has been proportional to the increase in environmental spending by DoD.

The scope, complexity, and number of environmental laws often hamper military commanders from devoting all their efforts toward military training. "The House Armed Services Committee, in its May 10, 1994 report on the defense budget, said that base commanders must be familiar with nearly 20 Federal laws and 10,000 pages of regulations." [Ref. 20] Military commanders today must be both warriors and environmentalists.

Prior to 1980, there were no felony penalties for criminal conduct under federal environmental statutes. Today, to be found in non-compliance with environmental laws can be costly. The cost for ecodamage restoration is expensive in terms of legal fines, actual cleanup costs, and the potential for personal liability and incarceration. "Under the Federal Facilities Compliance Act, base commanders are responsible for compliance with federal, state, and local environmental laws, and the Pentagon must pay the fines for violations." [Ref. 21] Serious violations can result in punitive action via heavy fines and/or incarceration.

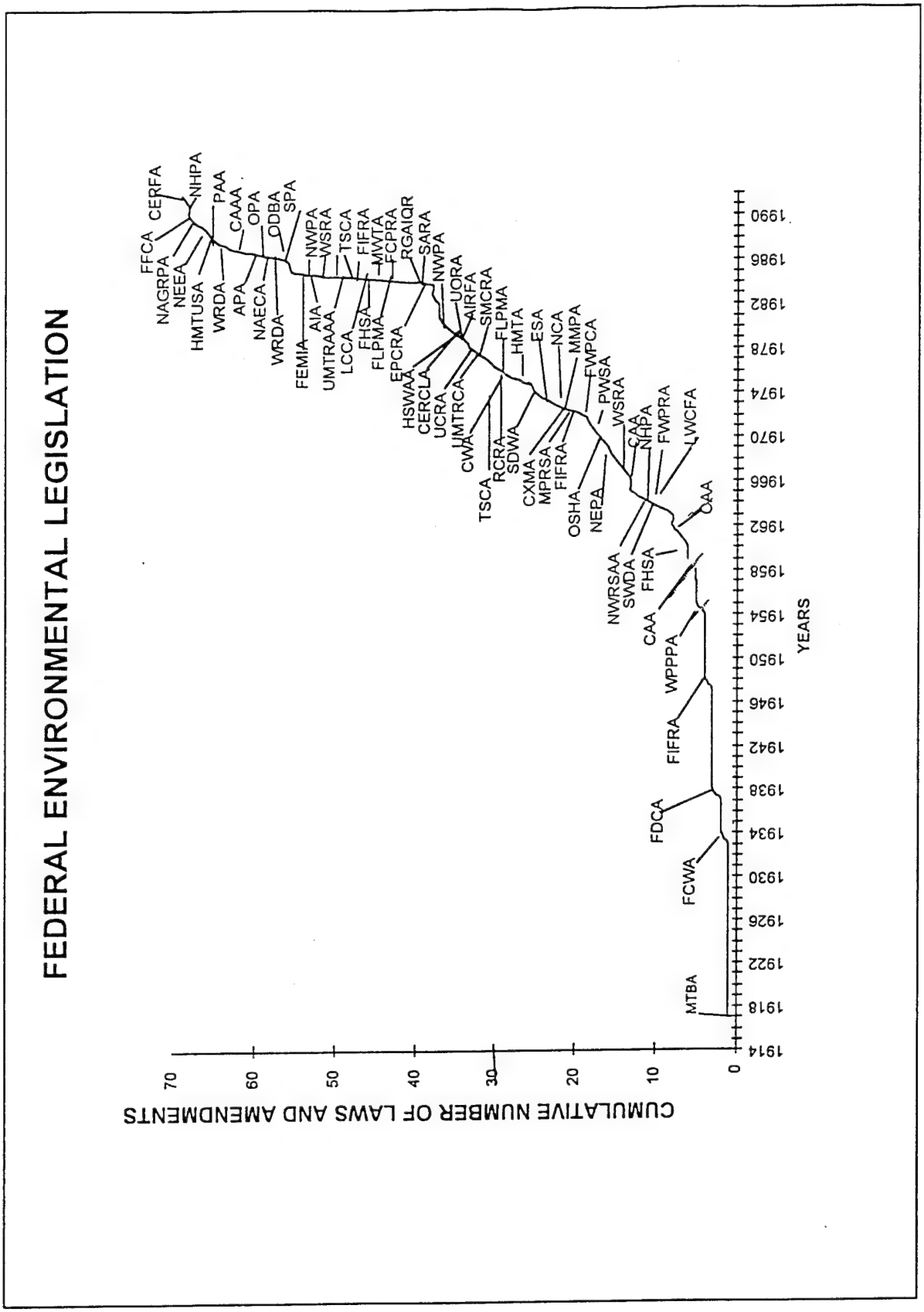

Figure 2. Source. Army Environmental Office, "Cumulative Number of Federal Environmental Laws and Amendments," Washington, D.C., September 1994.

The Federal Government is the sovereign and is free from prosecution. "The basic premise of sovereign immunity is that the United States cannot be sued without consent. The previous pollution defense was sovereign immunity for employees of the federal government. Today, all major federal antipollution laws waive governmental immunity in some fashion." [Ref. 22]

Sovereign immunity included those agencies and employees acting in good faith. Following the rash of environmental laws in the late 1980's, the government's role in sovereign immunity for personnel liability evaporated. In *U.S. v. Carr (1989)*, an Army civilian maintenance foreman was convicted of criminal violations of the Superfund Act by instructing his subordinates to illegally dump and bury cans of waste paint. Mr. Carr was sentenced to one year in prison which was suspended and ordered to serve a one year supervised probation. Mr Carr's supervisory chain suspended him without pay for one year pending the outcome of the case, then demoted him to a non-supervisory position after his conviction.

In *U.S. v. Dee, Lentz, and Gepp (1990)*, three Army civilian employees from the Aberdeen Proving Ground, Maryland, were convicted of illegally dumping hazardous wastes into a tributary of the Chesapeake Bay. A Federal jury found the three guilty of criminal violation of the Resources Conservation and Recovery Act (RCRA) for failing to properly identify, store, and dispose of the hazardous waste generated in their chemical weapons laboratory. The court sentenced each defendant to 1000 hours of community service and a suspended sentence of three years probation.

Finally, in *U.S. v. Pond (1991)*, a foreman at the Fort Meade wastewater treatment plant was found guilty of violating the Clean Water Act (CWA) for failing to conduct water sampling, testing, and submitting false reports. The court sentenced the defendant to eight months in prison and four months in-house detention to be followed by one year of supervised probation and a monetary fine. [Ref. 23]

These convictions sent a wakeup call to all federal government employees that they were no longer immune from prosecution for environmental damage. Environmental compliance remains a serious issue. In today's climate, the merest

hint of potential environmental damage by individuals can spur investigations and halt productivity.

The problems of being in compliance are compounded by the confusion over terminology. For instance, the legal definitions for the terms hazardous wastes and hazardous materials are covered in a plethora of federal laws. The layman interprets these phrases to include toxic chemicals and no distinction is drawn between the two. However, the term hazardous wastes is described more definitively in the Resource Conservation and Recovery Act (RCRA) and its 1984 Hazardous Solid Waste Amendment (HSWA). "According to RCRA, a waste is considered hazardous if it meets certain reactivity, corrositivity, or toxicity standards. Title 40 Code of the Federal Regulations, part 261, defines approximately 450 specific types of hazardous wastes." [Ref. 24]

The Department of Labor's Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) define hazardous materials from a different angle. "OSHA and the EPA cite hazardous materials as those that pose a physical or toxicological threat to worker health or those that may damage the environment because of ignitable, corrosive, reactive, or otherwise listed." [Ref. 25] This complex definition often hampers the efforts of base commanders and Program Managers in being entirely environmentally friendly and in compliance during the acquisition process. Environmental laws are written to protect health and safety. Local, state, and federal agencies enforce the rules which implement the environmental legislation. Subsequently, DoD must comply with these rules regardless of whether they are state or federal. This section highlights several legislative policies directly impacting DoD.

1. National Environmental Policy Act

The foundation for DoD environmental responsibility was established when President Richard M. Nixon issued Executive Order 11472 on May 29, 1969. The Executive Order orchestrated the Citizen's Advisory Committee on Environmental Legislative action. This group formed policy that was signed into law on January 1, 1970, as the National Environmental Policy Act (NEPA). [Ref. 26]

NEPA affected the way the federal government and DoD operated with respect to the environment. One of the most significant aspects of this law was the Environmental Impact Statement (EIS), which is required prior to the completion of an activity. The EIS does not prevent a project from starting, but an adverse report can seriously alter or postpone an activity until the Environmental Impact Statement is positive. This alteration of the work schedule often leads to cost overruns and time delays in the acquisition cycle of new systems while necessary alterations to the design of the project are reworked to satisfy NEPA requirements. There have been cases where judicial action based on a negative EIS have held up DoD projects until they were in compliance under NEPA provisions.

> An Army Strategic Defense Command program to launch non-nuclear test objects from Hawaii was stopped pending completion of a NEPA mandated EIS. Also, The expansion of expanded electro-magnetic pulse testing at the Woodbridge Research Facility and the effort to build a biological level aerosol test facility at the U.S. Army Dugway Proving Ground have been stopped because of a failure to comply with NEPA. [Ref. 27]

2. Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) was enacted at the end of 1980 and was the product of congressional interest in environmental cleanup of toxic hazardous waste. [Ref. 28] CERCLA authorized the federal government to begin cleanup of toxic and hazardous waste dumps at closed or abandoned waste sites. The Act vested the federal government with the authority to charge polluters with the cost of cleanup. "The act provides that federal agencies and employees are subject to and must comply with the statute in the same manner and to the same extent as nongovernmental entities (42 U.S.C. Section 9601 [D] [21])." [Ref. 29] CERCLA also permitted withdrawal of additional dollars from no-year appropriations entitled the Hazardous Substance Response Trust Fund or Superfund.

3. Superfund Amendments and Reauthorization Act

The Superfund process was conceived in CERCLA and amended in 1984 to include the Superfund Amendments and Reauthorization Act (SARA). The Superfund Reform Act of 1994, House Resolution 3800, considered how DoD should provide remedies for land cleanup commensurate with intended future use. This is especially critical when dealing with the future planned usage of former military bases. The Environmental Protection Agency (EPA) in its review of the Bill found it "provides broader consideration for costs of remedy selection; provides national cleanup standards for consistency while allowing the use of traditional risk assessment methods if no standards exist or DoD needs to tailor standards for specific conditions; installs a new liability assessment process where no party can be held liable for the entire cleanup; and includes the development of cost-effective generic remedies." [Ref. 30]

4. Clean Air Act

The Clean Air Act (CAA) was passed in 1970 and has been amended several times. The CAA was designed to prevent, control and reduce air pollution in the United States. In 1994, a CAA amendment failed to make it to either house floor for a vote. This bill is controversial because it would have enforced tougher air pollution standards than currently exist. This amendment was unpopular with the transportation and petroleum industries which would be most affected by the stricter standards in this amendment. "CAA contains provisions that waive any immunity provisions, with the intention of treating public and private defendants equally. The statute includes in its definition of `persons' who may be sued not only federal agencies operating sources of air pollution, but states and local governments." [Ref. 31] The federal penalties for individuals violating the CAA range from fines of up to $25,000 per infraction and up to 1 year in prison. [Ref. 32]

5. Clean Water Act

The Clean Water Act (CWA) was passed in 1972 and amended in 1987. The basic premise of this law was to regulate pollutants being dumped or discharged into the Nation's waterways, streams, or rivers. The concern was that toxic

chemicals and other pollutants might possibly end up in the country's aquifers. This contamination could result in the destruction of a critical portion of the Nation's drinking water. Penalties for violating the CWA range up to $1,000,000 in fines per installation. Individuals face a possible $250,000 per infraction and up to 3 years in prison. [Ref. 33]

6. Pollution Prevention Act

The Pollution Prevention Act (PPA) of 1990 mandates a national policy of pollution source reduction. This Act established the Environmental Protection Agency (EPA) as the lead proponent for a nationwide source reduction program. The EPA's charter was to develop a strategy for quantifying source reduction; to implement a pollution prevention training program, and establish an award system for pollution prevention innovations. [Ref. 34] Executive Order 12856 required the DoD Pollution Prevention Program to adopt the objectives and goals of this law. The PPA has a direct impact on the defense acquisition process. Government contracting officers need to consider an industry's pollution prevention accomplishments as evaluation criteria for contract awards. The PPA also impacts Program Managers in the acquisition process. Program Managers must pay closer attention to environmental issues throughout the life cycle of their programs to ensure compliance and maximize pollution prevention.

7. Safe Drinking Water Act

The Safe Water Drinking Act (SWDA) was passed in 1974 to regulate the quality of tap water and other sources of water for public consumption. The Act regulates the pollution content and aesthetic quality of drinking water. In October 1994, the 103d Congress debated but failed to pass an amendment to this law. Both Houses stalled during conference in the resolution of differences concerning the standards for certain chemical levels in public drinking water.

Penalties for violating the Act are a $1,000,000 fine for installations and individual penalties ranging from a $250,000 fine, a 3-year prison sentence, or both. [Ref. 35]

8. Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was passed in 1976 and amended in 1984. The RCRA established general guidelines and standards for hazardous waste generation, transportation, treatment, storage, and disposal. [Ref. 36]

This Act can have a significant impact on the acquisition process. Under RCRA, Federal agencies are required to use recycled materials whenever possible. They must utilize recovered (recycled) material to the maximum extent possible without jeopardizing the project. The Act also requires the use of programs to promote the purchase of items containing recovered materials. The EPA has issued mandatory guidelines for federal agencies concerning the procurement of building materials and products for federal use. Examples of these items are insulation products containing recycled items, cement made with fly ash, recycled paper products, petroleum and lubrication products containing reused substances, and retreaded tires. [Ref. 37] These practices are currently being implemented by DoD. However, penalties for ignoring this law are stiff and individuals' face up to a $250,000 fine, a 15-year prison term, or both and installations a $1,000,000 fine. [Ref. 38]

9. Federal Facilities Compliance Act

Enacted in 1992, the Federal Facilities Compliance Act (FFCA), P.L. 102-386, allows state and local governments to fine DoD installations for noncompliance with toxic and hazardous waste legislation. "This law expressly waives the sovereign immunity of federal facilities under RCRA, thus making it clear the EPA and states may assess fines and penalties against the government entities such as DoD for violations of that law." [Ref. 39] Prior to this law, DoD had been protected under sovereign immunity. Congress, the EPA, and state governments believed that DOD hid behind sovereign immunity to avoid meeting its environmental responsibilities. [Ref. 40] If this is accurate, it explains the rising cost of environmental cleanup and confusion over what might be the total cleanup bill.

Today, governmental immunity under environmental laws is not entirely dead; however, there is a crumbling of the sovereign immunity defense. "Governments are increasingly being treated as private parties under environmental laws and in environmental enforcement proceedings. With increased environmental litigation, this trend will be especially challenging and resource intensive as public organizations and employees are forced to put greater efforts to defend themselves and their actions." [Ref. 41]

B. THE CONGRESSIONAL PLAYERS

The House of Representatives and the Senate control the DoD environmental budget. There are two powerful committees from the House of Representatives which are concerned with DoD environmental issues, the House Armed Services Committee (HASC) and the House Appropriations Committee (HAC).[1] The Senate Armed Services Committee (SASC) and Senate Appropriations Committee (SAC) mirror the House committees. These committees are further divided into subcommittees with panel experts specializing in environmental matters.

1. The Authorization Committees

The HASC and SASC are the authorities that grant DoD permission to spend specified dollar amounts on Defense related programs. After Congress receives the President's Annual Defense Budget, it goes to committee for markup. The respective committees markup the President's annual discretionary budgets with concurrences, additions or deletions for proposed spending. When the bill comes out of Committee with its markup, it goes before the respective legislative bodies for a vote of approval prior to going to a conference committee. The Authorization Conference Committee is composed of representatives of the HASC and SASC. These members meet to resolve differences in each committee's bill and settle on a resolution for authorizing funding limits. Once these differences are resolved, the Conference agreement is again submitted to the full House and Senate, this time

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[1] In 1995, the 104th Congress renamed the House Armed Services Committee. The new title is The House Committee on National Security.

for final approval. The Bill is then submitted to the President for signature and becomes law.

a. House Committees

In the HASC there are three subcommittees that play a critical role in funding DoD environmental dollars. The Readiness Subcommittee focuses on the Defense Environmental Restoration Program (DERP) and the Defense Environmental Restoration Account (DERA). The Subcommittee on Military Installations and Facilities also concerns itself with DERP programs and with funding the Base Closure Account (BCA). DERP and BRAC are key in the downsizing process for closure and/or realignment of military bases. The Subcommittee on Research and Development provides oversight of the Research, Development, Test and Evaluation (RDT&E) dollars that fund future pollution prevention measures for DoD. It is also instrumental in funding the DoD's Strategic Environmental Research Program (SERDP).

There are other House committee's having oversight responsibility on defense environmental issues. The House Energy and Commerce Committee's Subcommittee on Transportation and Hazardous Materials is charged with overseeing Defense activity related to the minimization, transportation, and disposal of hazardous material. This delineation of responsibility for oversight crosses over into the House Public Works and Transportation Committee's Subcommittee on Water Resources, which oversees Defense transportation of hazardous substances and ensures DoD compliance with the Clean Water Act. [Ref. 42]

b. Senate Committees

The Senate Armed Services Committee (SASC) directs oversight on various Operation and Maintenance (O&M) accounts, including the DERP and DERA. The Subcommittee on Readiness, Sustainability and Support is closely involved with both the DERP and the DERA. Environmental research, development, test and evaluation, including the SERDP oversight, is tracked by the Subcommittee on Defense Industry and Technology.

As in the House, there are similar Senate committees which oversee and monitor environmental matters influencing DoD environmental security initiatives. The Senate's Environment and Public Works Committee has three subcommittees monitoring defense environmental issues. The Subcommittee on Environmental Protection, Subcommittee on Superfund, Ocean and Water Protection, and the Subcommittee on Toxic Substances, Environmental Oversight, Research and Development all monitor and guide various defense environmental issues. [Ref. 43]

2. The Appropriations Committees

The Appropriations process is similar to the authorization process in the formal legislative steps. Authorizations grant permission for spending limits for specific programs, but do not have the authority to allocate dollars to these programs. The Appropriations Committees allocate resources (money) to be paid from the Treasury Department for program funding set forth in the Authorization Conference Committee Bill. The House Appropriations Committee (HAC) and the Senate Appropriations Committee (SAC) perform these functions. The Defense Appropriations Subcommittees of both Houses provide oversight for defense O&M and RDT&E environmental defense matters, including DERA and SERDP.[2] The Appropriations Subcommittees on Military Construction in both Houses provide oversight for the Base Closure Account.

The next chapter focuses on congressional oversight of DoD environmental cleanup and compliance activities over the past 11 years. It builds upon previous research covering fiscal years 1984 through 1993. This historical insight coupled with fiscal year 1994 data provides a general premise for evaluating the fiscal year 1995 DoD environmental budget.

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[2] In 1995, the 104th Congress renamed the House Defense Appropriations Subcommittee the National Security Appropriations Subcommittee.

III. CONGRESSIONAL OVERSIGHT OF DOD ENVIRONMENTAL SECURITY, FISCAL YEARS 1984 - 1994

This chapter presents a synopsis of the defense environmental budget history from 1984 through 1994. Fiscal Year 1984 was selected as the environmental oversight baseline year because that was when the Defense Environmental Restoration Act (DERA) was created as a vehicle for Congress to assist environmental defense efforts. This historical background provides a general context for an evaluation of the FY 1995 DoD environmental budget.

A. ENVIRONMENTAL PROGRAM SPENDING 1984-1989

Environmental cleanup and compliance existed prior to 1984, but these programs were funded out of each military service's operations and maintenance (O&M) accounts. The environmental cleanup projects that impacted the O&M budget revolved around cleanup of petroleum spills and other toxic waste substances, environmental cleanup following the demolition and disposal of material from buildings, and asbestos removal from government facilities. In FY 1984, these accounts were consolidated through the creation of the Defense Environmental Restoration Account (DERA).

1. Environmental Restoration, Defense

DERA was established in 1983 by the Senate Appropriations Committee (SAC) as part of its markup of the fiscal year 1984 Defense Appropriations Bill. The original fiscal year 1984 DERA funding level was set at $300 million. The SAC recommended funding an additional $59.0 million by reducing other O&M accounts to assist in the start of this program. [Ref. 44] The Appropriations Conference Committee settled on $150.0 million to establish DERA. The services still retained funding in their O&M accounts for environmental restoration, compliance, conservation and pollution prevention, but not at the levels prior to the formation of DERA. The conception of the Defense Environmental Restoration Account enabled Congress to direct and track additional funding toward DoD environmental efforts.

In fiscal year 1985, DERA funding levels increased by 109 percent to $314.0 million. The SAC interpreted this as the beginning of a new phase in the defense environmental movement. [Ref. 45] The increased funding momentum of fiscal year 1985 was viewed as an opportunity by the SAC to commence extensive engineering design and cleanup contract planning. [Ref. 46] The Defense Department environmental budget for fiscal year 1985 DERA grew to the level which the SAC originally perceived as appropriate in fiscal year 1984.

The budget request in fiscal year 1986 continued to grow for defense environmental spending, but not at the level of the previous year. The 1986 budget grew by $46.0 million, to $360.5 million. However, 1986 was also noteworthy in the area of environmental legislation which would impact DoD. The Defense Environmental Restoration Program (DERP) became a permanent law as an amendment to the Superfund Amendments and Reauthorization Act (SARA) of 1986. DERP provided DoD centralized control of environmental activities in consultation with the Administrator of the Environmental Protection Agency (EPA). [Ref. 47] Additionally, the Defense Environmental Restoration Account was also solidified in permanent law as section 211 of the SARA legislation. Consequently, DERA and DERP vested Congress with the legal authority to provide environmental funding and regulatory oversight responsibility. Furthermore, these laws provided the impetus for the Defense Department to create an office concerned with environmental security. [Ref. 48]

Fiscal year 1987 was marked by differences in the appropriations and authorization bills regarding dollars that should fund DERA. The House Appropriations Committee (HAC) felt a reduction was in order since the DoD could not obligate funds at what it believed was a steady rate. The SAC's markup noted that the HAC failed to recognize that cleanup of contaminated hazardous waste sites on both active and Formerly Used Defense Sites (FUDS) was a national priority. Furthermore, the SAC noted the DERA outlay rate was slower than anticipated. As a result, the budget grew by only 4.6 percent over fiscal year 1986 levels, to $377.2 million. [Ref. 49]

The Armed Services Conference Committee approved $385.9 million for the DERA requirements. The Committee rejected the SASC's recommendation of a 2.24 percent reduction to the DERA. The SASC's recommendation for the reduction stemmed from delays in resolving a $50.0 million fiscal year 1986 funding dispute and the existence of unused balance in this account. The SASC did not blame this on DoD's poor management but on the timing difficulties with contractual and legal negotiations. [Ref. 50]

Fiscal year 1987 was also marked by changes in funding procedures for hazardous waste disposal. From fiscal years 1984 through 1986, hazardous waste disposal was funded through DERA. In fiscal year 1987, these costs were transferred back to the military services O&M accounts. The services were now responsible for paying for the cleanup of new hazardous waste they generated. These cleanup dollars would be paid for through each services' O&M operating budget accounts. The services were required to curtail their hazardous waste generation or pay for it out of their operating budgets at the expense of something else. This incentive technique worked. In fiscal year 1988, 93 percent of DERA funds were spent on active and FUDS hazardous waste cleanup sites. [Ref. 51]

In fiscal year 1988, $402.8 million was appropriated for DERA. This funding level was equal to DoD's budget request. However, this funding level resulted in further congressional oversight of Defense environmental restoration activities. Between November 1987 and March 1988, the House Armed Services Committee's Environmental Restoration Panel convened to discuss the progress and magnitude of the DoD environmental restoration efforts. DoD and EPA testimony showed that $1.6 billion had been spent from Fiscal years 1984 through 1988 on environmental cleanup. The HASC report concluded that there was still much work to be completed in restoring DoD hazardous waste sites. [Ref. 52] As a result, in 1989 the DERA request passed both congressional bodies at the original $500 million.

Figure 3 illustrates the DERA total obligational authority (TOA) for fiscal years 1984 through 1989. The graph also depicts a steady but moderate growth in environmental funding. The DoD DERA TOA for the environmental budget totaled $2,108.2 million from fiscal years 1984 through 1989. Over this time period, the

total Defense Environmental Restoration Account grew 500 percent. The majority of this growth occurred in fiscal years 1985 and 1989.

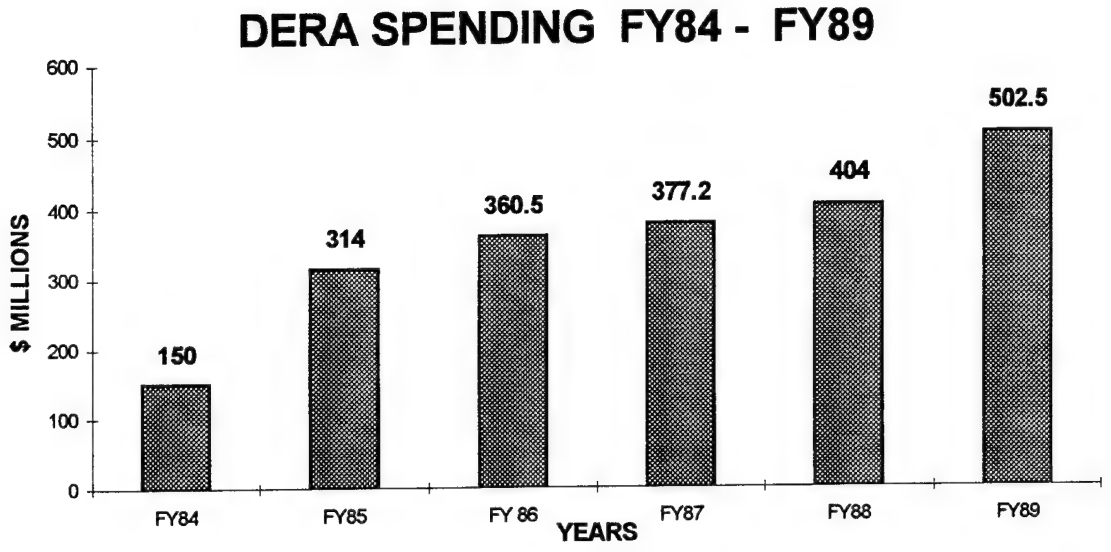

Figure 3. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

In the second half of the 1980's, defense spending began to decline. The fall of the Berlin Wall and the end of the Cold War resulted in the reduction of American military presence. With the drawdown in progress, there were plans to reduce and realign the military force structure. Part of this plan was the Base Realignment and Closure (BRAC) process. The extent of ecological damage was unknown and not considered in the BRAC budget planning.

2. Base Realignment and Closure

The Base Realignment and Closure Commission was established on May 3, 1988. In October of that year, Congress passed the Base Closure and Realignment Act as an amendment to the fiscal year 1988 Defense Authorization Act. The act vested an independent commission with power to recommend closure or realignment of military installations. The measure insured that Congress would have to vote to overturn BRAC commission recommendations and protected the commission from pressure from fellow congressional representatives with bases slated for closure. This process also overturned the congressional posture held since 1977, which prevented base closures despite DoD's annual proposal to streamline its operations by closing unnecessary installations. [Ref. 53]

The outgrowth of this report was "BRAC 88," which recommended closure of 86 military bases, realignment of 54 bases, and partial closure of five installations. The commission estimated annual savings to the taxpayers of $694.0 million. [Ref. 54] What the commission failed to calculate, either deliberately or via a legislative omission, were the environmental impact and cleanup dollars required to restore military property for civilian use. The myriad of environmental laws Congress had passed would come back to plague the BRAC process. The funding process addressing this environmental legacy of neglect began in 1992.

The 1990's produced greater awareness of the complexity of DoD pollution problems, prescriptions to curb them and development of breakthrough technologies and pollution prevention programs.

3. Research, Development, Test, and Evaluation

Research, Development, Test, and Evaluation (RDT&E) environmental funding from fiscal years 1984 through 1989 remained constant and unadjusted in both the authorization and appropriations process for each of the military services.

DoD funding requests for each service were located in various line items in the RDT&E account. The *Environmental Protection* line item is for the Navy's environmental RDT&E.[3] Air Force RDT&E requests were included in the *Civil*

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[3] The Marine Corps environmental RDT&E request is included in the Navy's budget request.

Engineering and Environmental Quality line item. The Army's environmental RDT&E budget request was found in the *Environmental Quality Technology* line item. Because RDT&E funding for the environmental budget was managed by each service, it did not receive congressional attention like the DERA. Figure 4 illustrates the TOA service spending on defense environmental RDT&E.

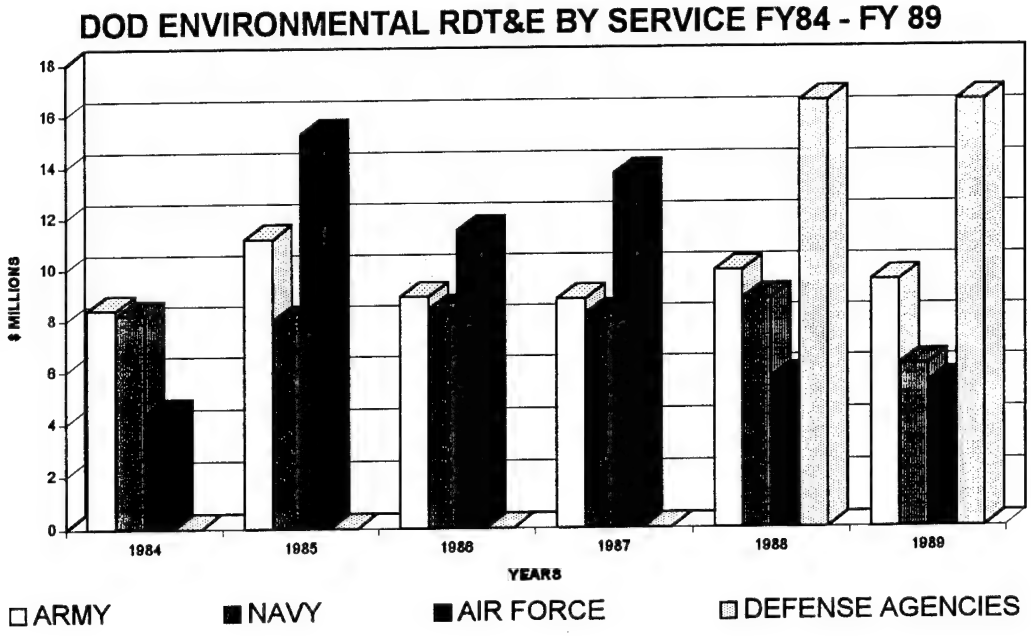

Figure 4. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

B. ENVIRONMENTAL PROGRAMS 1990 - 1994

The early 1990's represented a maturing of the environmental growth that included several features. The first feature was the new pillar format established by DoD for tracking environmental dollars. The "pillar" concept was created in response to the large number of dollars allocated to environmental issues. This method allowed Congress to more fully track exactly what funds were being spent and where. DoD must still submit its budget request for environmental funding through the normal authorization and appropriations process. These environmental pillar dollars are budgeted against various O&M, RDT&E, Military Construction (MILCON) for BRAC, Personnel, and Procurement line item accounts. However, DoD environmental programs were also tracked under a dual system of cleanup, that includes both the DERA and BRAC accounts and a compliance section for all other environmental spending. In 1991, the pillar tracking mechanism was expanded. The compliance pillar was subdivided for better oversight and the new pillars were designated for conservation, pollution prevention, and environmental technology. Environmental technology included the Strategic Environmental Research Development Program (SERDP) and other RDT&E projects.

In fiscal year 1994, DoD environmental programs were condensed to cleanup, compliance, conservation and pollution prevention. Environmental technology was no longer considered a separate pillar because environmental RDT&E efforts support all the pillars in DoD's Environmental Security Program. The Appropriations process now discusses environmental budget funding under each of these pillars. The Environmental technology and the BRAC play significant roles in the overall environmental security program and will be examined as if they were separate pillars.

The other major impact of the first half of this decade was the escalation of dollars requested by DoD for environmental programs. While the Defense Department's overall budget was in a state of decline due to the military drawdown, the environmental portion of the DoD budget continued to grow. For example, the DoD environmental security program totaled $5,185.0 million for fiscal year 1994.

This growth represents a 273 percent increase in requested funding since fiscal year 1990. [Ref. 55]

1. Environmental Restoration, Defense - Cleanup

The environmental restoration cleanup budget request for fiscal year 1990 resulted in a $100.0 million increase in funding over fiscal year 1989. The fiscal year 1990 environmental budget increased to $601.3 million on the SAC's recommendations. The reason for this increase for DERA was clarified in the Appropriations Committee Conference report. The fiscal year 1990 Appropriations Committee Conference report strongly encouraged DoD to submit a higher funding level in the fiscal year 1991 budget request. [Ref. 56] This recommendation emphasized the significant environmental cleanup problems facing DoD in the future.

The number of suspected hazardous waste sites grew from 14,401 at 1,597 military installations in fiscal year 1989 to 17,482 sites at 1,855 military installations in fiscal year 1990. This represented an increase of 3,081 suspected hazardous waste sites and 258 new military installations identified for DoD environmental cleanup funding. Furthermore, the number of DoD Superfund sites increased from 41 in fiscal year 1989, to 95 sites the following year. This 131.7 percent increase in DoD Superfund sites was identified in 89 installations at the end of fiscal year 1990. [Ref. 57]

The fiscal year 1991, DoD incorporated the Authorization Conference Committee recommendations by increasing the budget request for cleanup dollars. The increase in cleanup responsibility caused this increase in DoD's environmental remediation request, but to the level Congress estimated for DoD cleanup. Because of the growing number of DoD hazardous waste sites, Congress authorized and appropriated more funds than were submitted in the President's budget request for fiscal year 1991.

The SASC estimated a DERA funding shortfall of approximately $145.0 million in fiscal year 1990 and $300.0 million in fiscal year 1991. Consequently, the SASC recommended an additional $200.0 million above the fiscal year 1991 DERA request and that $25.0 million be earmarked for defense environmental research

and development. The Authorization Conference Committee felt this figure was too low and recommended an additional $45.527 million for DERA. [Ref. 58]

The Appropriations Committees also felt that DoD environmental problems needed additional funding. The HAC recommended $1.9 billion be appropriated for DERA. The SAC concurred with the House and increased DERA by $245.527 million. [Ref. 59] The DERA appropriations for fiscal year 1991 was $1,065.0 million, a 77 percent increase over the previous year. This growth for environmental funding was impressive despite of the overall drawdown of the DoD budget.

DERA funding increased by 6 percent, to $1,129.5 billion, in fiscal year 1992. DoD environmental cleanup continued, but with renewed congressional oversight. The SAC recommended that $69.0 million of the $2.2529 billion DERA budget request be transferred to the 1990 Base Closure Account to address the growth of military installation cleanup requirements. Notable was the fact that this was the first instance of earmarking DERA funds by appropriation committees outside the Defense cleanup model. [Ref. 60] The SAC recommended, and the Appropriations Conference Committee concurred, to expedite cleanup sites. The proposal directed DoD to accelerate and streamline its environmental restoration program. This plan would direct DoD to establish a 15-installation pilot program to expedite environmental cleanup. [Ref. 61] This proposal would later be replaced by DoD's Fast Track Cleanup Program, which will be discussed in Chapter IV.

Fiscal year 1992 was also notable for the submission of a DoD supplemental budget request of $447.5 million for DERA. Both the HAC and SAC recommended full funding of this request for pressing environmental cleanup needs. [Ref. 62] This additional funding was designated for cleanup projects at non-closing bases and for pollution prevention efforts to reduce use of 17 chemicals under the EPA's Industrial Toxins Program. The Supplemental Appropriation Bill was also intended to expedite studies on methods of replacing existing stocks of Ozone depleting chemicals (ODC's). The impetus for this acceleration was President Bush's plan to phase out ODC's from DoD inventories in five years. The additional funding would

help find alternatives for ODCs. ODC's currently are the primary form of fire retardant agent for most military fire extinguishers on combat vehicles. [Ref. 63]

Te fiscal year 1993 DERA request was $1,513.2 million. This request was $118.0 million less than the fiscal year 1992 estimate. [Ref. 64] The final DERA funding for fiscal year 1993 was $1,638.5 million for environmental restoration. The SAC continued its practice of earmarking funds for particular purposes. The SAC directed DoD to provide $200.0 million in DERA funding to expedite cleanup at DoD facilities only through a comprehensive plan submitted to Congress. This earmarking of funds was in response to dissatisfaction with the pace of DoD site restoration. [Ref. 65]

The President's fiscal year 1994 Defense Environmental Restoration Account request was $2,309.4 million. The House Armed Services Committee recommended no change to the DERA request. Under "environmental considerations," the Committee requested that DoD clarify its environmental programs to reflect the scope of the Department's activities and review all its components, especially compliance. It also "instructed the Secretary of Defense to include in its fiscal year 1995 budget submission an environmental budget that conforms to the pillars of its new organization - cleanup, compliance, conservation, and pollution prevention - as well as the typical budget categories." [Ref. 66] Tracking environmental spending through this pillar process will enhance the oversight abilities of both DoD and Congress. The HASC bill stated, "Without sufficient detailed information the committee cannot determine that the department is receiving full value for its environmental spending." [Ref. 67]

The Senate Armed Services Committee also recommended an additional $60.0 million for DERA, bringing their authorization amount to $2,369.4 million. In particular, $3.5 million was recommended for the Army Environmental Policy Institute. The Institute has helped the Army take a strategic look at its environmental obligations and identify issues and problems that will arise in the future. [Ref. 68]

In the Authorization Conference Committee, environmental restoration funding levels were slashed to $1,962.4 million. The Committee's report requested

more detailed financial disclosure and cost accounting for military installations receiving DERA funding for the fiscal year 1995 budget submission. This closer fiscal accountability and notification mechanism for cost overruns (greater than or equal to $10.0 million, or delays of more than 180 days) is a means for both DoD and Congress to exercise stricter controls over environmental spending. [Ref. 69]

The curtailment of DERA funding was not as extreme as that proposed by the House Appropriations Committee (HAC) which allowed for only $1,716.8 million for Environmental Restoration. In their review of DoD environmental security programs, the HAC was generally pleased with the efforts of the Clinton Administration in placing a high priority on environmental protection. Specifically, the HAC supported Sherri Goodman, Deputy Undersecretary of Defense for Environmental Security. Goodman believes that DoD could reduce costs and shorten cleanup times if the intended future use of the polluted sites was matched to the cleanup effort. In short, military installations slated for closure and conversion into industrial parks need not be cleaned as thoroughly as sites intended for housing developments. As a result of this statement the HAC expects to see a reduction in future budget submissions for the DERA account. [Ref. 70]

The House Appropriations Committee reduced the fiscal year 1994 Defense Environmental Restoration Account request by $592.5 million. The Senate Appropriations Committee also recommended a reduction. The SAC recommended an appropriation of $2,207.8 million for DERA, a decrease of $101.6 million to the budget request. This recommendation was $491.0 million above the House Appropriations Committee figure. Additionally, both the HAC and the SAC continued to echo the theme of previous years concerning the "excessive expenditures on study efforts and the pace of progress in devoting funds to cleanup efforts." [Ref. 71]

The Senate Appropriations Committee was concerned with two issues. First, there was no firm procedure in place to categorize benefits from cleanup versus studies programs in the Defense Priority Model (DPM). Therefore, the Committee directed DoD to prepare a detailed report identifying all funds allocated to development and management of the DPM for the fiscal year 1995 budget. The

expenditures are to be divided into several categories to provide better oversight for cleanup funding. These categories are preliminary assessment (PA), site inspection (SI), remedial investigation (RI), feasibility study (FS), remedial design (RD), and remedial action (RA). The second concern of the SAC was how to pay for Defense environmental cleanup with a declining DoD budget.

In the Appropriations Committee Conference Report, the conference committee recommended a reduction to DERA of $347.1 million due to severe budget constraints. This was the first instance where either House mentioned problems in discretionary spending. The Appropriations Conference Committee agreed to fund DERA at $1,962.3 million. The report "strongly agrees that individual site cleanup projects should not be specifically earmarked within the DERA account. Further, the conferees agree to the Senate's mandated new reports and direct that they be submitted annually to the Defense oversight committees." [Ref. 72] Interestingly enough, the funding levels by both the Appropriations and the Authorization Conference Committee varied by only $100 thousand.

Figures 5 illustrates the increasing growth trend in DERA spending from fiscal years 1984 through 1994. The graph depicts the concern expressed by Congress over the escalating cost of environmental restoration.

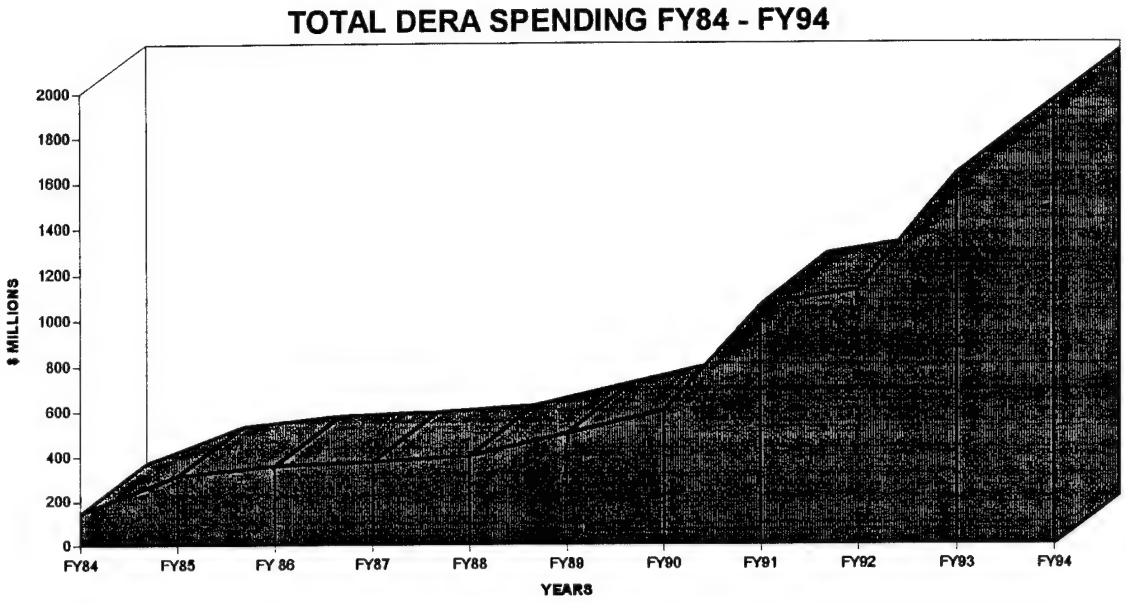

Figure 5. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

Figure 6 depicts the steady growth of the military services' and the Formerly Used Defense Sites (FUDS) portion of the DERA account from fiscal years 1990 through 1994. The difference in funding levels represents the individual services' commitment to environmental restoration in relation to base closures and the size of their environmental cleanup responsibility.

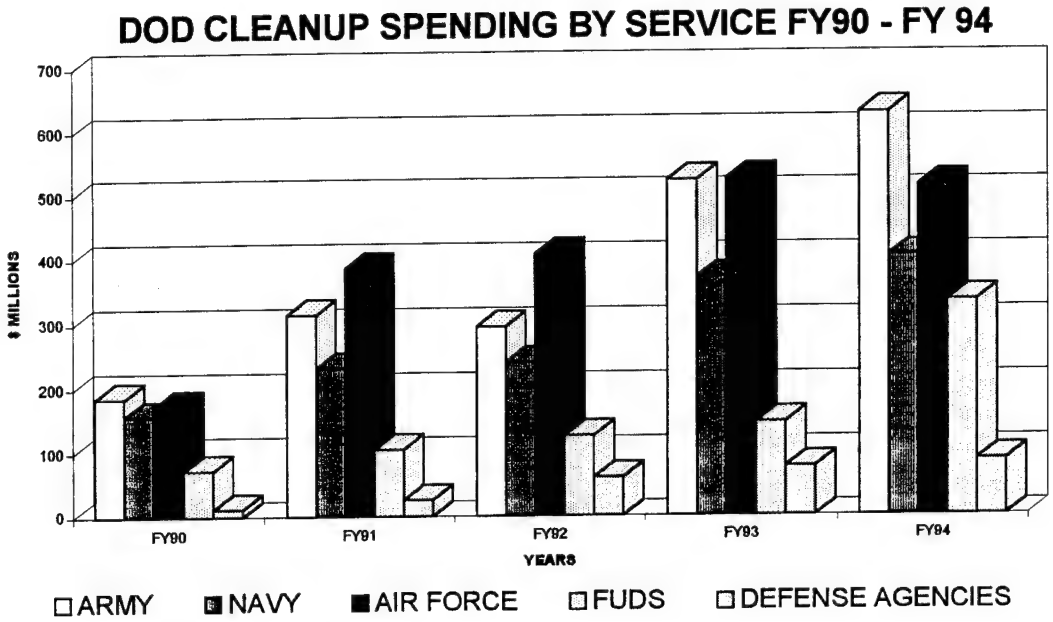

Figure 6. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

2. Environmental Compliance

The compliance issue has always been a factor in DoD environmental planning, although it was not separately tracked until fiscal year 1990. Similar to the Environmental Restoration Account, compliance has grown at an alarming rate. Environmental compliance is the budget pillar to track and ensure that DoD conforms with the numerous environmental protection laws and regulations. It pays for things such as hazardous waste storage, treatment, and disposal. Compliance assists in upgrading existing installations and utility services, by building new facilities and/or buying equipment to meet clean air and clean water requirements. Environmental legislation requires the use of permits and fees for daily operations to maintain pollution at certain levels. These are items which DoD's compliance funds must pay for. DoD compliance programs are controlled by numerous

legislative policies, including programs such as endangered species management, historical property preservation and other "must do" requirements outlined by environmental legislation. [Ref. 73]

DoD is faced with the challenging task of complying with the law without suffering degradation in force readiness. DoD must not only comply with all federal laws, but also state and local environmental regulations where military installations are located. Many states have stricter environmental regulations than the Federal Government to protect their unique environmental resources and address public concerns.

In fiscal year 1990, the environmental compliance budget was $790.0 million. Together with the DERA cleanup portion, this represented the entire DoD environmental budget. This figure would rise by $318.0 million in 1992. The Army compliance budget alone rose $142.0 million. The other services also experienced growth in compliance spending. The Defense Department budget request for fiscal year 1992 was $1.4 billion. [Ref. 74]

The revised total for compliance activities for fiscal year 1992, including a supplemental DoD budget request, was slightly below $1.9 billion. The rationale for this request was the projected wave of projects coming due in the mid-1990's. Dollars spent now would avoid the increased cost of paying for them in future years. The budget appropriated for fiscal year 1992 for compliance was $1,929 million. [Ref. 75]

In fiscal year 1993, the compliance budget increased by $190.0 million to $2,119 million. This action was taken to avoid another supplemental budget requirement similar to fiscal year 1992. During the Senate Appropriations Hearings, Mr. Thomas E. Baca, Deputy Assistant Secretary of Defense for Environment, stated that he believed the compliance request would require about $1.7 billion to meet DoD requirements. He also outlined several other concerns regarding compliance.

The problems Mr. Baca identified were the numerous environmental laws and administrators of environmental regulations. DoD needed to be on a "level playing field" with the rest of the regulated community so federal facilities would

not be singled out for discriminatory treatment. He wanted clarification on judicial issues regarding EPA authority versus state authority, especially regarding how CERCLA and RCRA apply to DoD. DoD needs a clearer picture of what guidelines it must follow. He felt that DoD personnel and federal military facilities were caught in a "crossfire" of competing regulations and regulators. [Ref. 76] If DoD could operate from one set of standards instead of competing with the numerous power players in the environmental bureaucracy, it could streamline the compliance formula and, in turn, reduce budgetary requests over time.

The Air Force also expressed confusion as to what standards were to be followed. Environmental cleanup efforts, though fruitful, have been laced with frustration. The Deputy Assistant Secretary for Environment, Safety, and Occupational Health, Gary D. Vest outlined the problems and challenges for environmental compliance:

> I believe that probably in the next year or two one of the things that is going to pose a very substantial challenge to us in this program is the relationship with states, and in particular the relationship with states as it pertains to cleanup standards. Because of the way the law and the implementation is currently structured, there is a great deal of difference in terms of cleanup standards. At present, the DoD or an element of DoD's only recourse is to either reject those or to contest standards. We are doing this now in California because quite frankly some of the things we were being asked to do in terms of cleanup standards, in our view, just didn't pass the sanity, cost-effectiveness test. [Ref. 77]

The HASC fiscal year 1994 compliance recommendation was $2,244 million. This funding level would cover operating activities for routine compliance with all federal, state, tribal, and local environmental regulations mandated by the CAA, CWA, and RCRA. The HASC included $180.0 million for compliance activities overseas. It also included an additional $56.6 million for construction of facilities over the $359.3 million requested. [Ref. 78] The SASC made no specific mention of environmental compliance funding levels in its review of environmental spending.

The fiscal year 1994 Authorization Conference Committee Report required DoD to submit an annual environmental report to Congress not later than 30 days after the President's budget. These would include reports on Defense Environmental Restoration Activities, a summary of Environmental Compliance Activities and personnel costs to operate environmental activities. Congress also requested that this narrative include an analysis of the effects of environmental compliance laws on readiness, on individual installations, and on DoD as a whole. Finally, the Congress wanted the reports to incorporate contractor reimbursement costs for environmental activities. [Ref. 79]

The contractor portion of these annual environmental reports will be of particular concern in the oversight of the acquisition process. The problem is that defense contractor facilities are liable for all or part of any environmental response action or non-compliance with environmental laws. The fines, penalties, and restoration for environmental related costs could be and most likely have been passed on to the government in the course of completing the acquisition process. Congressional oversight will encourage the acquisition community to procure "green" and consider awarding defense contracts to industries that have an environmental friendly production capability and/or are in compliance with federal, state and local environmental laws.

In fiscal year 1994, the SAC was concerned about the proliferation and apparent lack of prioritization for environmental compliance programs. It was greatly concerned with O&M shifting resources to pay environmental compliance costs above what was appropriated and budgeted.

> The Committee was particularly concerned with each service's overexecution of environmental compliance programs. During a previous fiscal year, using O&M funds, one service spent $140.0 million more than was budgeted and appropriated for compliance - a 35 percent increase over the approved funding level. O&M funding shifts of this magnitude to pay environmental compliance costs undercut readiness and reduce the Committee's visibility into DoD environmental costs. The committee cannot support sacrificing readiness to inadequately prioritized compliance efforts. [Ref. 80]

The Air Force spent an additional $148.0 million received through a late fiscal year 1992 supplemental appropriation. [Ref. 81] This may be the cost overrun the SAC is referring too. However, the SAC realized compliance was a two edged sword and warned DoD it would not look favorably on surprises and additional fines and other compliance costs which reduce other programs. In short, the SAC recommend that the Office of the Secretary of Defense (OSD) get its environmental program in order and provide better management.

Despite the strong tone of the SAC, it concurred with the total funding request by DoD, but this money would only be for compliance activities. The SAC was aware that compliance dollars were also requested under RDT&E ($243.890 million), Military Family Housing ($22.640 million), and Military Construction ($359.500) accounts. The total of the entire compliance request was $2,489.520 million. [Ref. 82]

The HAC review of environmental compliance activities did not specify exact cuts in this program. However, based on previous information concerning budget considerations, the Appropriations Conference Committee opted for cutting back the compliance program to $1,921.1 million. [Ref. 83]

The increases of the prior years did not materialize in fiscal year 1994 for two reasons. First was the general concern of how DoD manages its Environmental compliance account. Second was the increasing pressure to control DoD's overall budgetary costs and decrease it as part of the overall defense plan.

Figure 7 illustrates the TOA for the DoD Environmental Compliance program by service from fiscal year 1990 through fiscal year 1994.

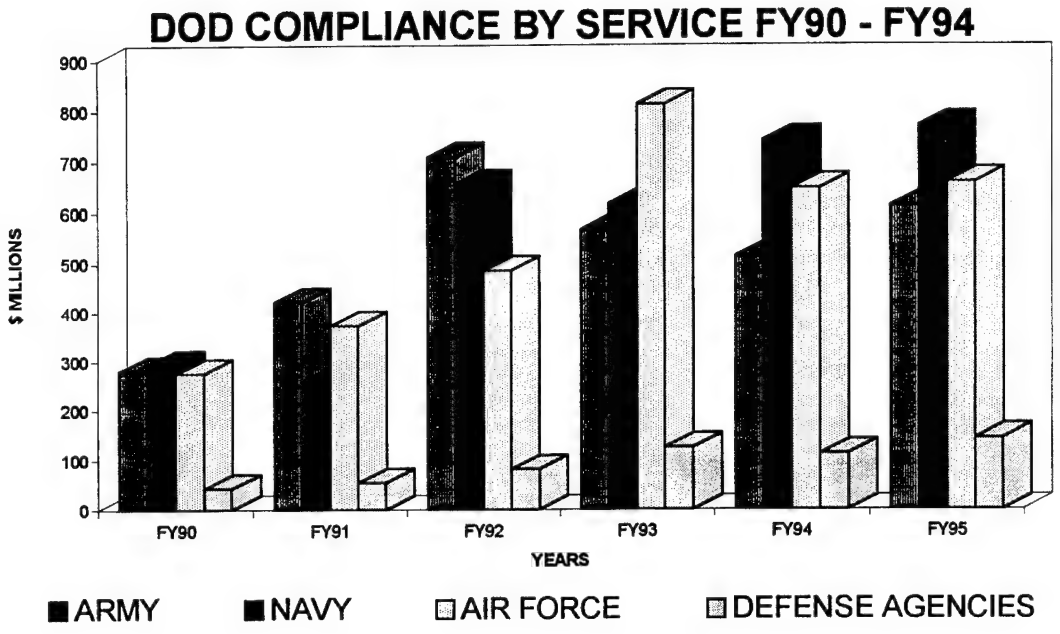

Figure 7. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

3. Environmental Conservation

Environmental conservation was initially funded through the DoD environmental compliance portion of the budget. In fiscal year 1993, this process was changed to facilitate better oversight of these dollars (except for the Legacy amounts which were tracked separately from fiscal year 1991).

The Environmental compliance account was formerly titled Land Management and Natural Resources Programs. The title was changed to incorporate the pillar concept for tracking environmental funding. "The Legacy account was established in 1991 to coordinate, enhance, and expand the natural and cultural resource management efforts of the military installations." [Ref. 84] Fiscal year 1991 Legacy account was initiated with $10.0 million and increased to $25.0 million in fiscal year 1992. The control of these funds remained at the agency level and services sought funding of legacy projects through DoD. However, in fiscal year 1993, the services requested control over these dollars earmarked for particular conservation programs. The funding for environmental conservation programs is found under the military services O&M, RDT&E, and Defense Business Operations Fund (DBOF) line items.

In fiscal year 1993, conservation budget funding jumped 432 percent to $132.7 million. The reason for this increase is two fold. First is the shifting of environmental responsibility within the pillar concept to streamline environmental oversight, and second, the military services saw this account as a way to offset shrinking operating budgets. However, the fiscal year 1994 budget request was not funded at the same rate as the prior year. This reduction was consistent with reductions in the Environmental Cleanup and Compliance accounts under the DoD pillar system. Fiscal year 1994 Conservation funding increased by $1.1 million, to $131.9 million. Interestingly, the Navy's budget also rose by $9 million, while the Army's conservation dollars decreased by $12.0 million. [Ref. 85]

Figure 8 depicts the Environmental Conservation funding from fiscal year 1990 through fiscal year 1994. The environmental conservation program has received favorable funding since its conception in fiscal year 1991 as a separate pillar account.

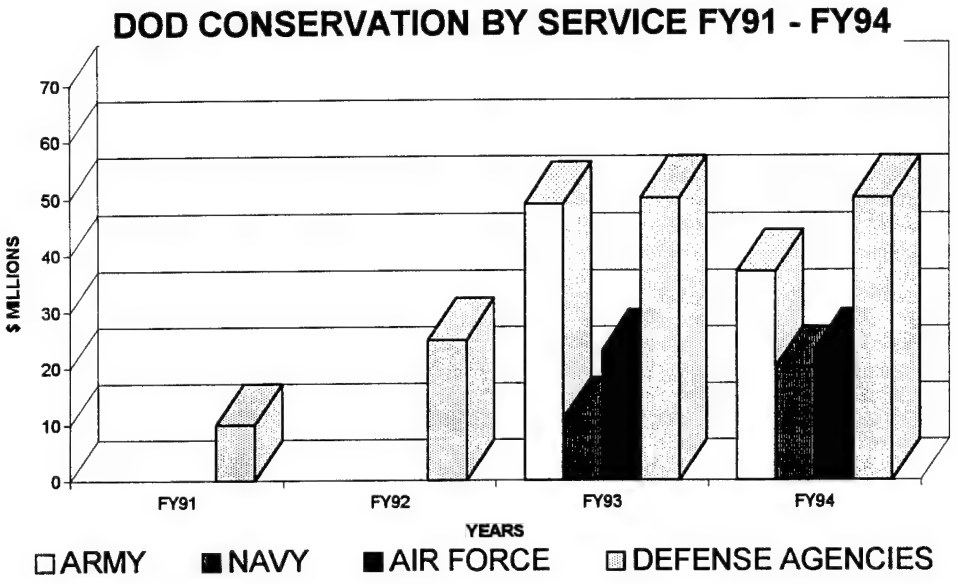

Figure 8. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

4. Pollution Prevention

The Pollution Prevention Program was an outgrowth of the Pollution Prevention Act of 1991. Prior to fiscal year 1993 this program fell under the auspices of environmental compliance for funding. The DoD goal was a 50 percent reduction of hazardous waste disposal between 1987 and 1992. The military services and the Defense Logistics Agency achieved a 40 percent goal through 1990. [Ref. 86] The new strategy for pollution prevention (P^2) emphasizes greater focus on the acquisition process to avoid expensive cleanup and disposal costs later (discussed in Chapter IV).

In fiscal year 1993, total P^2 funding was $274.0 million. The Air Force requested $154.0 million, 56 percent of the appropriated funding. $117.1 million of the requested resided in the O&M account. Air Force senior leadership deemed it a priority to establish an aggressive prevention program. [Ref. 87] Air Force leadership foresaw that reduced force structures coupled with shrinking budgets required creative investment in methods to reduce costs through avoidance. Figure 9 illustrates the services' percentage shares of the P^2 budget for fiscal year 1993.

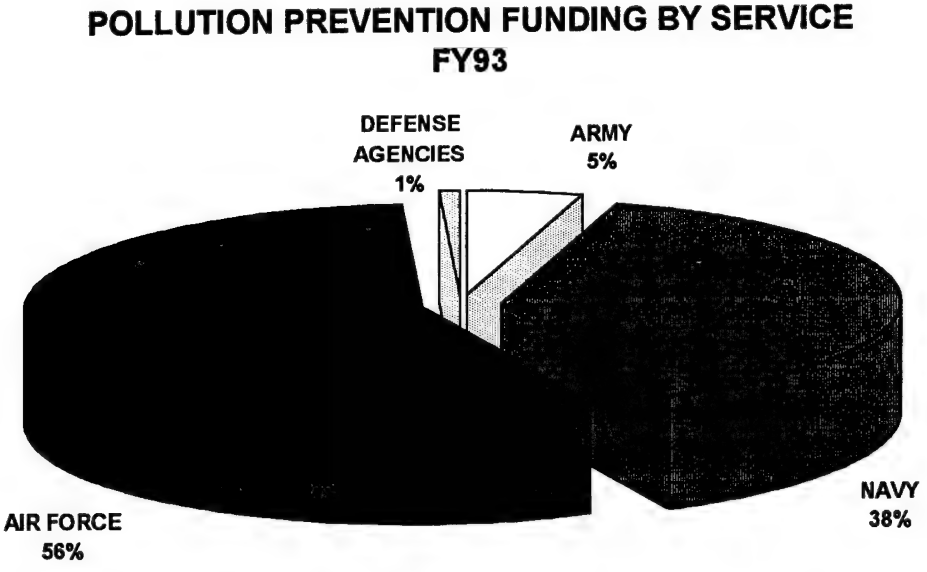

Figure 9. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

Fiscal Year 1994 saw an increase in pollution prevention funding levels, while other environmental programs were curtailed by budget constraints. All the services requested procurement of P^2 equipment. The Army requested $51.0 million, $38.0 million more than it did in fiscal year 1993. The Army saw this program as way to enhance its P^2 programs in both Weapons and Tracked Combat Vehicles and ammunition programs for fiscal year 1994. [Ref. 88]

Figure 10 depicts the shifting composition of the appropriated funds for the P^2 program by service. The Navy and Air Force requested additional funding for aircraft pollution prevention programs, reducing hazardous waste, and alternative means of producing ODCs. The P^2 success in the Air Force and other service initiatives will be highlighted in chapter 5.

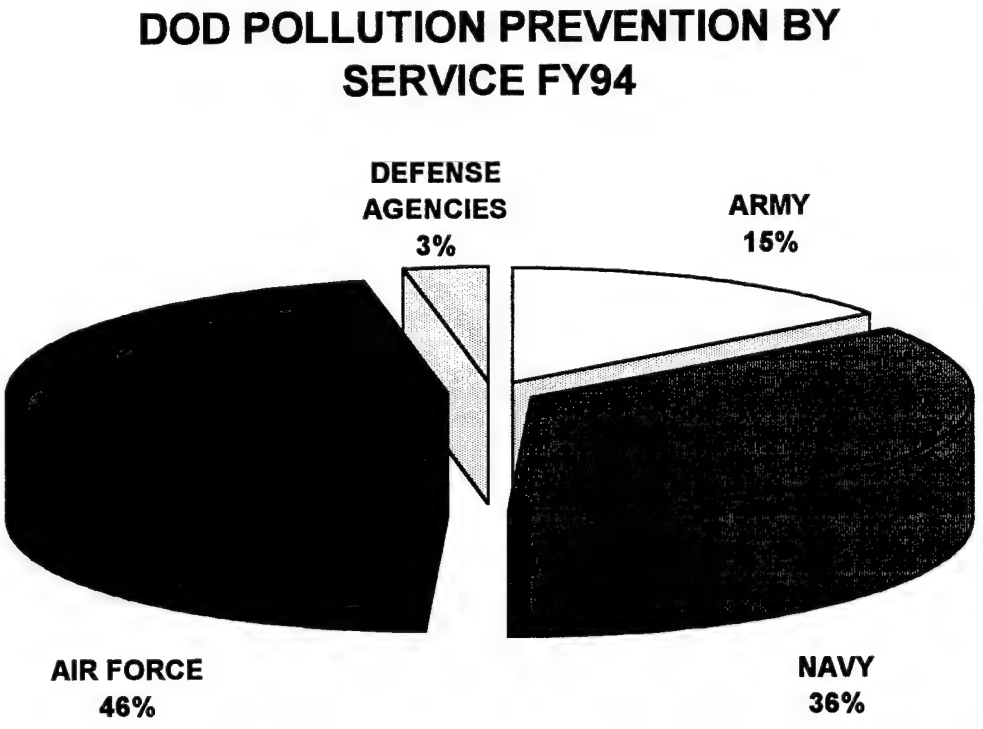

Figure 10. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

The fiscal year 1994 Pollution Prevention budget request was $340.0 million. The congressional appropriated funding level was $338.1 million. Figure 11 portrays the growth of the pollution prevention program by service between fiscal years 1993 and 1994.

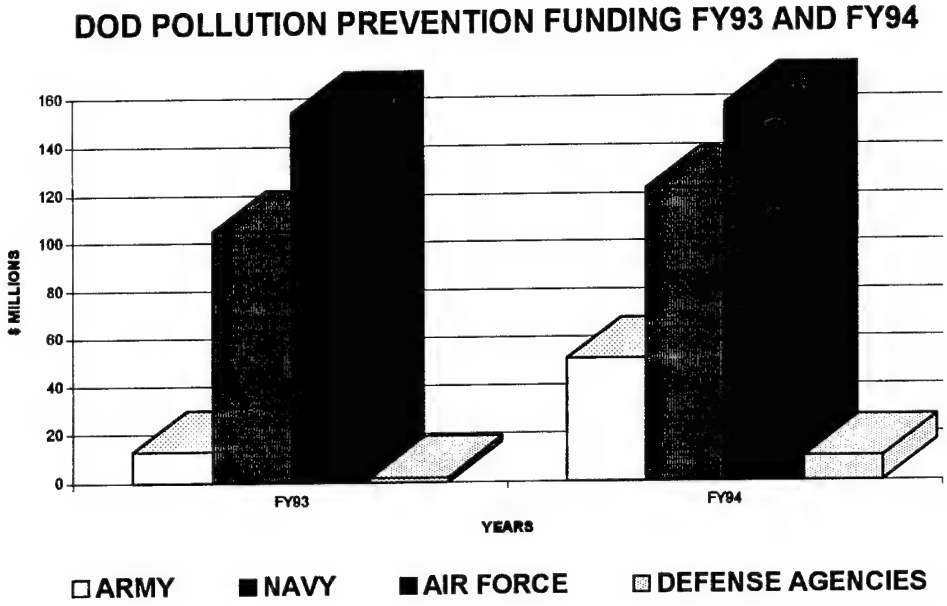

Figure 11. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

5. Environmental Technology

Environmental technology funding is incorporated in the Research, Development, Test and Evaluation (RDT&E) account of the DoD budget and appropriated into every environmental pillar. RDT&E has received renewed interest as a vehicle for discovering emerging technologies. The goal of these new methods for pollution abatement is to replace current polluting materials and manufacturing processes currently in the work place. The rising cost of environmental restoration has increased the need for research and development of alternative ways to reduce the cost of remediation through breakthrough technologies. In the past, the military services have utilized this source of funding for such purposes. However, prior to fiscal year 1993, this funding was not tracked by officials in the office of the Assistant Secretary of Defense for Environmental Security.

a. Research, Development, Test and Evaluation

In fiscal year 1990, the Army's RDT&E environmental funding was located in the *Environmental Quality Technology* line item. The average annual request, authorizations and appropriations was $9.798 million between fiscal years 1984 through 1990. Throughout this time period, the Army's RDT&E funding received full funding from both the Defense Authorization and Appropriations Committees. [Ref. 89]

The Air Force *Civil Engineering and Environmental Quality* and the Navy *Environmental Protection* requests also received favorable treatment by the appropriations funding support since fiscal year 1987. In fiscal year 1990, the combined total funding for all three services' RDT&E budget was $28.64 million. Between fiscal years 1987 through 1993, the Air Force environmental RDT&E authorizations and appropriation averaged $8.8097 million and $8.881 million respectively. The Navy's environmental RDT&E average funding was $8.697 million for authorizations and $8.374 million for appropriations. [Ref. 90]

Fiscal year 1991 saw an increase in all areas of environmental RDT&E funding for each service. The Army's requested $9.815 million for *Environmental Quality Technology*. The House Armed Services Committee authorized a $5.0

million increase to this account for accelerated research on both environmental contamination prevention and cleanup. This amount was increased to $11.815 million by the Senate Armed Services Committee. The current authorization was again bolstered in the Authorization Conference Committee to a final funding level of $12.815 million. The Authorization Conference Committee earmarked $3.0 million for office space and program structuring for commencement of the Army's integration with the Strategic Environmental Research and Development Council (SERDC). [Ref. 91]

Similarly, the House Appropriations Committee also recommended a $5.0 million increase over and above the Army's request. This increase was earmarked for research experiments, system design, construction, and testing of a fully functional unit to decontaminate soil using solar energy. [Ref. 92]

The Senate Appropriations Committee also recommended an increase of $4.9 million to the budget request. The Appropriations Conference Committee provided funding of $12.815 million for Environmental Quality Technology, $3.0 million above the original Army's request. The implication of the conference agreement was that this funding was for the Army's integration with the SERDC. [Ref. 93] The Navy and Air Force also sailed through the HAC with an additional $5.0 million for *Environmental Protection and Civil Engineering* and *Environmental Quality* line items. Neither the SAC nor the Appropriations Conference Committee recommended additional funding. This additional funding was later denied by the Appropriations Conference Committee. However, the Navy and Air Force received their full request of $11.56 million and $5.615 million respectively for fiscal year 1991. [Ref. 94]

In fiscal year 1992, the Army's *Environmental Quality Technology* line item received additional funding earmarked for specific programs. The Army's funding request of $18.984 million was increased to $28.984 million authorized and $29.734 million appropriated. [Ref. 95]

The Navy's RDT&E *Environmental Protection* budget request was fully funded at $26.143 by both the Authorization and Appropriations Conference Committees for fiscal year 1992. [Ref. 96] Likewise, the Air Force's *Civil*

Engineering and Environmental Quality request was fully funded at $11.744 million by the Authorization Conference Committee. [Ref. 97] The HAC also recommended an increase to the Air Forces's environmental RDT&E account by $10.0 million. However, the Appropriations Conference Committee did not concur with the additional funding but settled on funding the of $6.744 million request. [Ref. 98]

The Army's *Environmental Quality Technology* original budget request was $18.447 million for fiscal year 1993. This program continued to be the big funding winner. The Authorization and Appropriations Conference Committees recommended additional funding for this program at $51.947 million and $66.347 million respectively. The funding increases were earmarked for such items as the Hawaii Small Business Development Center and for the National Center for Environmental Excellence by the SAC and HAC respectively. Again, both the Navy and Air Force received all of their requested environmental funding. [Ref. 99] The question arises as to the direct benefit to the overall defense and those derived to benefit.

The earmarking of environmental dollars in the individual services' accounts raises questions to consider as to the direct benefits gained for the defense-wide environmental restoration and compliance efforts. If these programs assist research centers and have environmental validity, then why are they not funded under a single defense-wide account? Are these disguised "pork" programs to benefit only local constituencies? If not, can the data and potential research and development benefits derived from these centers be accessed by all the services?

The Army's *Environmental Quality Technology* budget request for fiscal year 1994 was $21.229 million. The SASC recommended funding $36.629 million for this program. It received an additional $10.0 million earmarked for conducting research to develop state-of-the-art technologies to detect and remove unexploded ordnance at Jefferson Proving Ground. [Ref. 100]

The HASC also increased the fiscal year 1994 authorization request by $43.0 million. The reason for the increased authorization to $64.229 million was the HASCs' concern that DoD was not taking advantage of the nation's existing

and developing research capabilities in bioremediation. The committee suggested that Bioremediation Education, Science, and Technology centers (BEST) could address these problems through partnerships among major research universities, a national laboratory and a science consortium located at a historically black college or university. The HASC recommended an additional $4.0 million for Environmental Remediation Demonstration Projects. These projects facilitate the development of new technologies that can expedite remediation of landfills on military installations designated superfund sites. [Ref. 101]

The Authorization Committee Conference settled on $43.229 million for fiscal year 1994. The funding earmarked $10.0 million for continuing efforts in research and development of state-of-the-art technologies to detect and remove unexploded ordnance at Jefferson Proving Ground. [Ref. 102]

The Appropriations process also recommended increases to the Army's *Environmental Quality Technology* budget request for fiscal year 1994. The HAC recommended $68,729.0 million, an increase of $47,500.0 million to the request. The additional funding was earmarked for programs recommended by the HASC. These programs included $10.0 million for Unexploded Ordnance remediation at the Jefferson Proving Ground; $2.0 million for bioremediation; $2.0 million for acceleration of environmental activities at the National Renewable Energy Laboratory (NREL); and $4.0 million for Bioremediation Education, Science, and Technology Centers (BEST). The Committee also recommended $4.5 million to initiate a Facility Environmental Management System (FEMMS) at Tobyhanna Army Depot for the integration, comprehensive management, and control of environmental issues at Army facilities. This program will be performed in conjunction with the National Defense Center for Environmental Excellence (NDCEE), for which the Committee recommended $5.0 million. [Ref. 103]

The SAC was not as generous in its' adjustment to this account. The Senate recommended only a $5.4 million increase for a total recommendation of $26.629 million. The Committee's rational for the increase was to earmark funds for the commercialization of agricultural-industrial products at the Hawaii Small Business Development Center. It was disappointed with the Army for not

executing all its fiscal year 1993 funding for the Jefferson Proving Ground remediation technology R&D efforts. [Ref. 104]

The Appropriations Conference Report approved $54.129 million. This recommendation earmarked $10.0 million for NDCEE and $10.0 million to continue the Jefferson Proving Ground project. [Ref. 105]

The Air Force *Civil Engineering and Environmental Quality* program requested $7.187 million in fiscal year 1994. This request was totally funded by both the HASC, the SASC, and in the Authorizations Conference Committees.

The HAC also concurred with the budget request. However, the SAC recommended only $3.610 million. There was no explanation for the SAC's decrease in the funding level. The underlying concern for fiscal constraint is a possible explanation for the SAC's decision. The Appropriations Conference Committee settled on $6.187 million for *Civil Engineering and Environmental Quality*. [Ref. 106]

The Air Force's *Civil and Environmental Engineering Technology* budget request was $8.435 million. The HASC, the SASC, and the Authorizations Conference Committees concurred with the budget requested. [Ref. 107] The SAC and HAC agreed to fully fund this program and appropriated an additional $5.0 million earmarked for production scale spray casting equipment. [Ref. 108] The Appropriations Conference Committee budgeted $13.360 million for the *Civil Engineering and Environmental Technology* account. [Ref. 109]

The Navy's *Environmental Protection* budget request was $44.461 million. This budget request passed both the HASC or SASC unaltered for fiscal year 1994. The Authorization Committee Conference Report fully funded the budget request at $44.461 million. *Environmental Protection* account received additional funding in the appropriations process.

The HAC concurred with the budget request. The SAC opted to increase the appropriations funding level to $47.286 million without comment. [Ref. 110] The Appropriations Conference Report increased the request to $53.461 million. This additional funding, $9.0 million, was earmarked for solid waste

disposal projects necessary to permit the Navy to comply with the Marine Plastic Pollution Research and Control Act. [Ref. 111]

Environmental RDT&E funding for the military services in the 1990's appears to have received positive congressional favor. The reasons for the increased earmarking of funds can only be speculated. However, one possible conclusion is that this area represents an avenue for funding activities in home districts while obtaining a potential future benefit from environmental technology.

b. Strategic Environmental Research and Development Program

Another source of environmental funding, to which the services contribute RDT&E dollars, is the Strategic Environmental Research and Development Program (SERDP). The SERDP was first conceived in the fall of 1990 at the prompting of then Senator Al Gore (D-TN) and Senator Sam Nunn (D-GA). The program was intended to primarily assist the military services to begin tracking the multibillon-dollar environmental legacy of the Cold War and cleanup of its numerous military bases and weapons facilities. SERDP was set up as a joint effort between the Department of Defense, the Department of Energy (DOE), and the Environmental Protection Agency. [Ref. 112] Since its inception in 1990, this program has enjoyed rapid funding growth.

Figure 12 illustrates the Environmental Technology funding levels, including RDT&E dollars from Army, Navy, Air Force, and Defense agencies and the SERDP. Funding levels are measured in terms of TOA. The most dramatic growth occurred in fiscal year 1993 when the SERDP funding level increased 208 percent over fiscal year 1992.

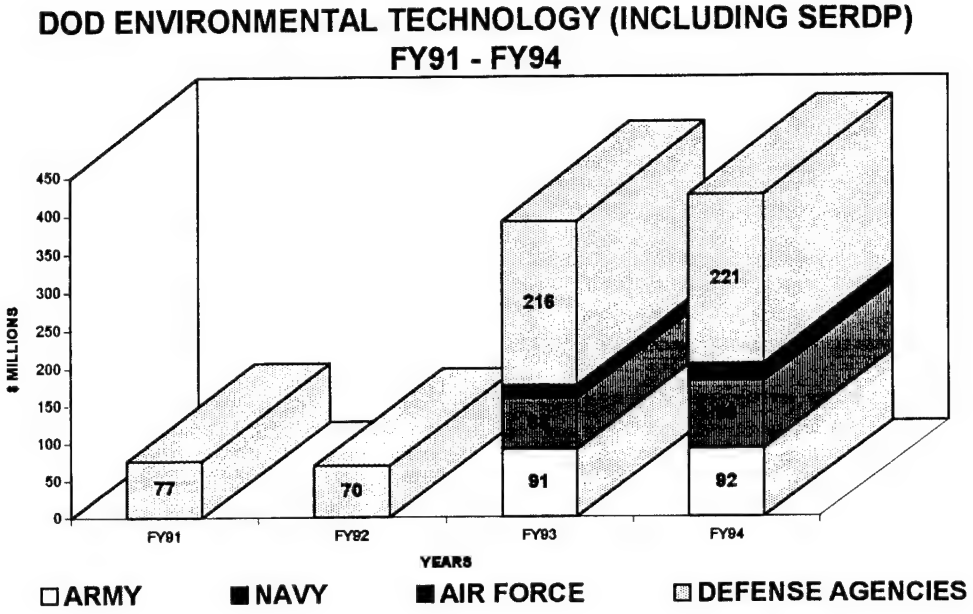

Figure 12. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

In fiscal year 1994, the DoD's SERDP budget request was $97.958 million. The House Armed Services Committee was pleased that the DoD budget request increased over fiscal year 1993. However, the Committee qualified its approval, and expressed concern over DoD's previous lack of commitment to the goals of this program. It reminded the Secretary of Defense that it "expects SERDP funding to be contracted with industry, including small and medium size defense-

related companies, and minority-owned business, to the maximum extent possible with government laboratory involvement only to provide program management and technical base." [Ref. 113] The HASC also issued a deadline for the DoD to report back on how the SERDP research plan would be funded and that it was in place.

Furthermore, the Committee wanted the DoD to consider several recommended SERDP initiatives implemented for fiscal year 1994 and authorized an additional $22.0 million to fund them. These projects included; application of diode laser technology for in situ characterization and monitoring of remediation sites; encapsulation of solid waste; pollution detection through spectrometer air quality monitors; chemical oxidation through ozone and ultra-violet light process; support of acoustic monitoring of global environmental climate program; environmental studies of the Naval Research Laboratories and the National Supercomputing Center for the establishment of collective environmental diagnostics and bioremediation technology development in cooperation with the center for environmental diagnostics and bioremediation in Pensacola, Florida to accelerate on-site restoration of numerous hazardous waste products; and an assessment of deep ocean isolation of contaminated coastal zone sediments. [Ref. 114]

The Senate Armed Services Committee recommended $200.0 million for SERDP, a $102.0 million increase. The committee also recommended a provision to extend the authority of the SERDP's Executive Director for an additional two years. The SASC was pleased with the progress of the SERDP in that it was fully operational and had sponsored numerous promising research projects.

However, the Committee remained concerned with the management structure of the program. The SERDP "request was for $97.0 million and addressed only the environmental restoration portion of the program, omitting reference to the other two SERDP categories-environmental data gathering and analysis; and environmental compliance, energy and other technologies. In reviewing the testimony by Dr. John Deutch, Under Secretary of Defense for Acquisition, the omission of the other two categories was inadvertent. The committee also believes

that DoD is fully committed to funding phase I and II SERDP research areas as well as initiating new proposals in all three SERDP research areas in fiscal year 1994." [Ref. 115]

The SASC was also pleased with the coordinated efforts by the DoD, DOE, and EPA which DoD initiated when the SERDP was implemented. The committee directed DoD and DOE to develop a formal mechanism to coordinate identification of the specific and common needs of each agency to avoid duplication of efforts to maximize research dollars. The SASC further directed that these agencies incorporate the efforts of the EPA and other federal agencies that have environmental restoration needs into the plan. The initial focus for this cooperative effort is in environmental restoration research where these agencies have common challenges. The SASC set a deadline of June 1, 1994 to have the formal coordination mechanism in place. [Ref. 116]

The Authorization Conference Report adopted several of the provisions advocated by both the SASC and HASC in their Authorization Bills. The Conference Committee stated its concerns about the management of the maturing SERDP program and recommended that the executive director position be established in the Senior Executive Services (SES). The committee also required the Secretary of Defense to create this position in consultation with the Secretary of Energy and Administrator of the Environmental Protection Agency. The committee also urged the SERDP council to consider how to incorporate the HASC's guidance for greater research participation by both industry and universities. The conferees recommended $150.0 million for the SERDP in fiscal year 1994. The funding would enable DoD to continue programs begun in phases I and II and initiate new R&D proposals in all three SERDP areas. In closing, the conferees believe that the DoD should consider requesting funding for the programs described by the HASC in its budget request for fiscal year 1995. [Ref. 117]

The House Appropriations Committee was not kind in funding the SERDP. The HASC recommended $67.958 million, a $30.0 million reduction in the SERDP due to fiscal constraints. In doing so, the HAC directed full funding of

phase I and II programs. The HAC reiterated its continuing concern with the slow pace of progress in remediation of environmentally polluted sites on military installations. The SERDP, with its new environmental technologies, was supposed to demonstrate cost-effective approaches to expedite cleanup at these bases. The HAC directed the DoD to concentrate its efforts on several demonstration projects to fulfill the potential benefits which could be derived through quicker environmental remediation. [Ref. 118]

The size and complexity of environmental remediation has heightened concern that the pace of military installation cleanup may be hurt by the lack of trained personnel in environmental cleanup. The HAC recognized this as a potential problem and recommended funding for training, education, workforce development, and related research to increase the Nation's capability to carry out environmental cleanup work. Therefore, the HASC recommended $3.5 million be available only to the National Environmental Education and Training Center. They also believed that small and medium businesses could compete and contribute to the technology being developed in the SERDP program. This belief resulted in a recommendation that 20 percent of the SERDP resources be allocated for assisting small and medium size defense-related companies to demonstrate their technologies for environmental new technologies applications. [Ref. 119]

The Senate Appropriations Committee recommended $200.0 million, an increase of $102.042 million to the budget request. The SAC also recommended transferring a number of service requested environmental research and development projects proposed in the DERA, and place them under the SERDP umbrella. Further, the SAC urged DoD to establish a more efficient process of evaluating and approving service related projects with SERDP resources. The committee also recommended that the DoD develop a comprehensive plan to streamline and prioritize its limited resources on high-priority payoff projects for the fiscal year 1995 budget submission.

Finally, the SAC encouraged the SERDP to investigate the utility of using desiccant gas cooling technology, using water and natural gas, to assist the reduction of heating and cooling cost at military installations. [Ref. 120] The

follow-on application is extremely relevant to the DoD acquisition community to comply with the requirement to eliminate ozone depleting chemicals in all military systems by the end of 1995.

The Appropriations Conference Committee funded $160.0 million for the fiscal year 1994 SERDP. In doing so, the conferee's did not concur with the Senate proposal to transfer DERA funding initiatives to the SERDP. The Conferees did agree that global environmental change research should be a priority within the SERDP. The Committee also endorsed the HAC's proposal that $37.8 million only be appropriated to continue funding phase I projects approved by the SERDP Science Advisory Board. [Ref. 121]

6. Base Realignment and Closure

In the 1990's, Military Construction's Base Realignment and Closure Account (BRAC) became a major funding element for the environmental restoration of military installations. The players for the Base Closure Account are the Armed Services Appropriations Committees and the Military Construction (MILCON) Appropriations Subcommittees. The Base Realignment and Closure Commissions convened on three occasions to decide the fate of military installations. The Commissions' recommendations became known as BRAC I, BRAC II, and BRAC III, respectively.

The initial theory for closing military bases was to save DoD discretionary dollars. Closure of expensive military facilities and the sales of land from these military bases looked like an ideal plan to gain the "Peace Dividend" after the Cold War. However, this concept has proved unachievable. Rigorous environmental laws and regulations have increased the cost of base closures and eroded the full savings potential. Congress in its decision to implement BRAC may not have fully understood the environmental cleanup ramifications to close military installations.

The BRAC I fiscal year 1990 funding request was $500.0 million. However, the primary focus in this fiscal year was determining which committee and account, either the O&M or MILCON, these base closing dollars would be obligated from. The resolution of this issue would become the Base Closure Account (BCA). The $500.0 million budget request was ultimately approved by the MILCON

Appropriations Conference Committee. Neither the Authorization or Appropriations Conference Committees specifically earmarked the BRAC I resources for environmental restoration. However, $38.0 million was obligated to the BCA for cleanup or compliance projects.

The total BCA request for fiscal year 1991 was $916.5 million. The HASC recommended an increase of $100.0 million for environmental funding. The HASC also proposed that the BCA be the exclusive source of funding for environmental restoration projects. The SASC did not agree with the recommended funding increase by the HASC. It recommended only a $50.0 million increase for the BRAC I environmental cleanup. The Authorization Conference Committee concurred with the HASC's $100.0 million increase and confirmed that the BCA was to be the exclusive funding source of funding for these bases. The Conferees also recommend that the DoD continue to prioritize its environmental remediation efforts to expedite cleanup at the most seriously contaminated sites first. [Ref. 122]

Finally, the conferees agreed with the HASC proposal that would create a model base closure program at two selected installations. This program was designed to increase efficiency and effectiveness through contractor indemnification of the federal government against future legal penalties. The contractor at the second base would continue to conform to prevailing contractor practices. [Ref. 123]

The House MILCON Appropriations Subcommittee recommended $998.1 million for BCA with $81.6 million earmarked for environmental cleanup for fiscal year 1991. The Senate MILCON Appropriations Subcommittee agreed to support only the budget request without earmarking environmental cleanup funds. The MILCON Appropriations Conference Committee recommended $1,016.5 million and designated $100.0 million for environmental cleanup. The conferees believed future land sales would help pay for the additional cleanup costs at BRAC cleanup projects. [Ref. 124]

In fiscal year 1992, DoD streamlined its method of tracking the environmental funding for bases slated for closure in the BRAC recommendations of 1988 and 1991. The HASC increased the BRAC I budget request of $633.6

million by $25.0 million for a total of $658.6 million. For BRAC II, the HASC recommended $100.0 million. [Ref. 125]

The SASC also increased the BRAC I budget request. The Committee recommended funding $674.6 million. The SASC supported increasing the BRAC I account by $41.0 million and BRAC II funding to $297.0 million which would be earmarked for environmental restoration projects.

The Authorizations Conference Committee supported the SASC's recommended funding for the BRAC I and increased the BRAC II account to $197.0 for environmental restoration. The Authorizations Conferees also indicated that the cleanup activities at bases slated for closure were technically part of the DERP. The Committee recommended that environmental cleanup for installations on either BRAC lists should be managed as part of the DERP program, even if no DERA funding could be used from this account. [Ref. 126]

The House MILCON Appropriations Subcommittee fully supported both the BRAC I and the BRAC II requests. However, the House MILCON Appropriations Subcommittee regarded the BRAC I budget estimate for environmental restoration as budget low at $175.8 million. The committee recommended $200.8 million as a funding floor for this environmental cleanup but did not increase the BRAC I request of $633.6 million. The BRAC II request for $100.0 million was fully funded. [Ref. 127]

The Senate Appropriations Subcommittee echoed the SASC recommendation for increased funding of BRAC I and BRAC II. However, the Committee recommended $674.6 million for BRAC I with an environmental cleanup floor of $241.8 million. The BRAC II environmental funding was a mirror image of the SASC's recommendation for $197.00 million.

The MILCON Appropriations Conference Committee concurred with the Senate's recommendation of $647.6 million for BRAC I and the House recommendation of $100.0 million for BRAC II. The conferees' recommended an environmental restoration funding floor of $220.0 million, which was $44.2 million above what DoD programmed for this effort. [Ref. 128] However, the original dollars earmarked for environmental cleanup dollars were insufficient and DoD

requested an additional $162.7 million in the fiscal year 1992 supplemental appropriations for BRAC II. Both the Senate and House approved the appropriations. The net result for environmental funding levels were $262.7 million for BRAC I and $256.0 million for BRAC II. [Ref. 129]

Funding levels decreased for BRAC I for fiscal year 1993. The original markup from both the HASC and SASC provided full funding for BRAC I at $440.7 million and $1,743.6 million for BRAC II, but neither recommendation included earmarking funds for environmental cleanup. [Ref. 130]

However, the House MILCON Subcommittee did recommend environmental earmarking of BRAC funds. The House recommended a reduction of $25.0 million for a funding level of $415.7 million. It also earmarked $308.9 million for base closure environmental restoration. The House recommended a reduction to the BRAC II funding to $1,618.6 million and earmarked $308.9 million for environmental restoration. [Ref. 131]

The Senate MILCON Appropriations Subcommittee fully funded the budget request for BRAC I and BRAC II for fiscal year 1993. The Senate believed DoD had underestimated the cost of closing bases. This underestimation could have future detrimental effects. The committee pointed out that as more MILCON Appropriations funds are shifted to environmental restoration, it could erode the potential base closing cost savings and seriously jeopardize future investment in regular military construction projects. [Ref. 132]

The DoD budget requested for fiscal year 1994 was $27.87 million for BRAC I, as compared to the fiscal year 1993 request of $136.8 million. This dramatic decline in funding was due to unobligated funds from other areas being available to execute environmental requirements. The BRAC II request also declined from the 1993 request level to $262.3 million earmarked for environmental restoration. [Ref. 133] However, the total request for BRAC III funding grew to $1,800.5 million.

The HASC recommended that $893.0 million be earmarked for environmental cleanup. In this increase, the HASC allocated an additional $100.0 million for BRAC I and $400.0 million for BRAC II accounts. This increase was

$500.0 million above the Department's request for the first two rounds of base closures. These earmarked environmental cleanup dollars also included $106.0 million for a third round of base closures, even though these installations had not yet been identified. This additional funding was to expedite remediation in addition to normal cleanup and compliance funding, even if those bases were not on the closure list. [Ref. 134] In addition, the HASC proposed a provision to transfer the responsibility to the private sector to cleanup bases in exchange for the property or facilities.

> The provision allows the transfer of military real property or facilities without reimbursement, at a military installation closed or being closed pursuant to a base closure law to any person who agrees to conduct all environmental restoration, waste management, and environmental compliance required under Federal and state laws, and pay all the associated costs. [Ref. 135]

Of course, this transfer could only take place with Congress's blessing and if all restoration and other associated cleanup costs were equal to or greater than the fair market value of the property or facilities to be transferred.

The SASC's review of BRAC issues reduced BRAC I funding to $12.830 million. The SASC also recommended reducing the BRAC II funding level to $1,526.310 million. The BRAC III budget request was for $1,200.0 million. The SASC recommended $1,500.0 million. The additional $300.0 million was earmarked to accelerate the environmental restoration and expedite the economic redevelopment at bases slated for closure. [Ref. 136]

The House MILCON Subcommittee noted in its review of the fiscal year 1994 budget request that $4.5 billion had been appropriated since fiscal year 1991. The Subcommittee recommended funding $3.0 billion under three separate accounts. The House MILCON Subcommittee did not alter the budget request. The Subcommittee also recommended a total spending floor of $582.0 million for activities associated with environmental restoration and cleanup at closure sites. The Subcommittee was both cognizant and concerned that many environmental restoration projects would not be completed on time. The Subcommittee encouraged DoD to expedite the BRAC cleanup activities by curtailing the

extensive review process and start developing cleanup alternatives before the formal review process is completed. [Ref. 137] Furthermore, the Subcommittee expressed concern with the Navy's environmental cleanup efforts at the Philadelphia Naval Shipyard. The Subcommittee found reductions in the allocated cleanup cost unacceptable and directed the Navy to explain them. It also earmarked $2.410 million for a Hazardous Waste Handling Facility in support of the remaining commands at the Philadelphia Naval Shipyard. [Ref. 138]

The Senate MILCON Appropriations Subcommittee reviewed the SASC funding increase in MILCON authorizations and disagreed with the proposed funding increases due to budgetary constraints. The Subcommittee, therefore, recommended a four percent across-the-board general reduction in order to stay within the budget allocation targets. It urged the Congress to work with the military services and the DoD to secure funding of priority projects prior to future budget submissions. The Senate reminded the DoD that it will become more difficult in the future years to accommodate the large numbers of MILCON projects not included in the president's budget submission as the available dollars for defense continue to decline. [Ref. 139]

Contrary to the overall MILCON budget reduction recommendation, the Senate agreed to fully fund the BRAC III budget request. However, the Subcommittee did recommend reducing both the BRAC I and the BRAC II accounts. The Senate echoed many of the same concerns enunciated by others in Congress over the Defense Department's slow progress to obligate BRAC funds. Therefore, the Senate MILCON Appropriations Subcommittee recommended that the BRAC I and BRAC II be reduced by $12.830 million and $1,526.310 million respectively. [Ref. 140]

However, the Subcommittee fully funded the environmental restoration and cleanup requirements for closing or realigning bases. The Senate Subcommittee approved more than $340.0 million for environmental compliance construction projects. [Ref. 141] The Subcommittee requested a General Accounting Office (GAO) review of the DoD guidance for funding and classifying environmental

compliance projects. The GAO report found that DoD had no comprehensive guidance for instructing the services in requesting compliance construction funds.

> A GAO report found that the Army and Navy are not taking advantage of the military construction process in the programming of environmental projects. As a result, scarce Operations and Maintenance dollars, necessary for training and readiness, are being devoted to environmental construction. The Committee believes the Army and Navy should follow the Air Force's lead which has demonstrated the validity of utilizing the military construction program as a way of tracking environmental requirements in a comprehensive manner. [Ref. 142]

The Senate MILCON Appropriations Subcommittee understood that there are often cumbersome hurdles in the MILCON process and some services are reluctant to utilize this account for environmental construction projects. Therefore, the Subcommittee would consider an annual lump-sum appropriation for MILCON environmental compliance and protection projects to shorten the environmental identification and completion of these activities. It recommended that the DoD establish an environmental project account in its fiscal year 1995 budget request. It also urged DoD to work with the GAO in the creation of more effective environmental programs. These construction projects would include cost-effective measures to improve military installations' underground wastewater programs and above ground storage tanks for petroleum products which the Committee considers prudent environmental preventive measures. [Ref. 143]

The MILCON Appropriations Conference Committee concurred with the Senate's recommendation to in reduce the BRAC I and BRAC II funding to $12.830 million and to $1,526.310 million, respectively. The House's recommendation, which would have established minimum funding levels for environmental restoration activities, was deleted by the Conference Committee. The Committee also increased BRAC III funding to $1,144.0 million.

Figure 13 depicts BRAC's TOA environmental funding by Service from fiscal years 1990 through 1994.

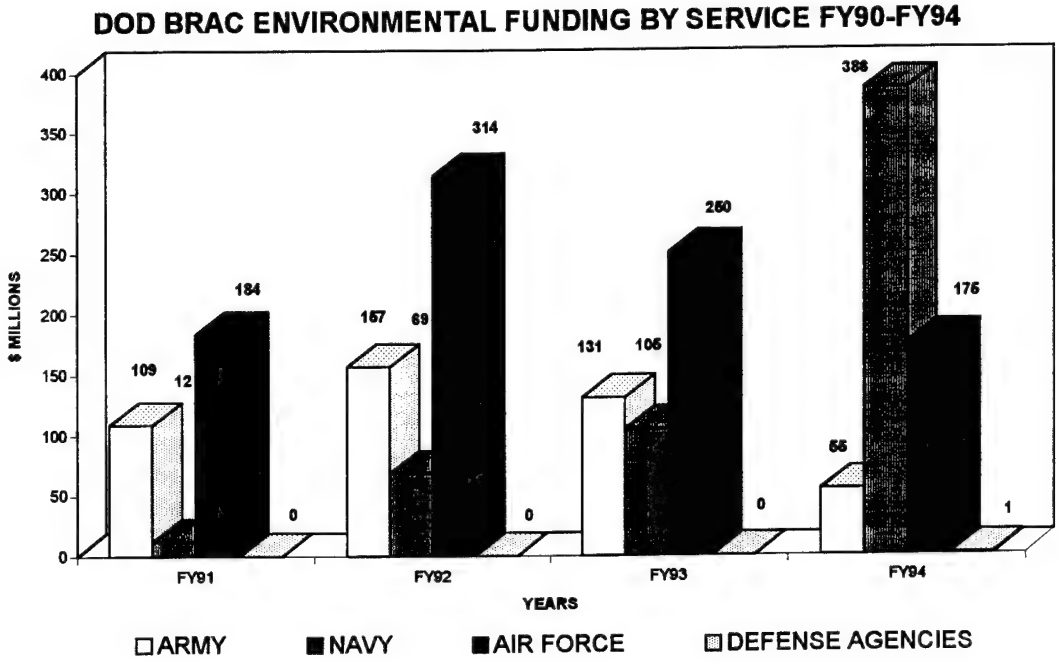

Figure 13. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

The environmental budget for the past 10 years has increased significantly. Total spending on DoD environmental funding from fiscal years 1984 through 1994 equated to approximately $20,084.4 million. Figure 14 illustrates the growth of all DoD environmental funding from fiscal years 1984 through 1994.

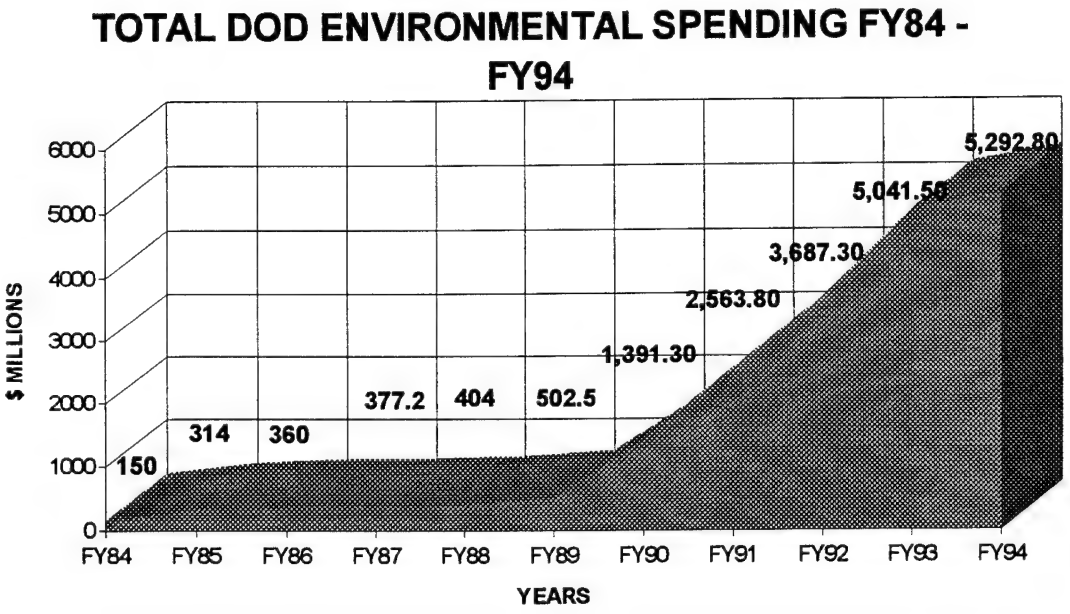

Figure 14. Source: Office of the Under Secretary for Defense for Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

C. SUMMARY

The 1994 environmental budget sent mixed signals to DoD. First, Congress was unwilling to commit dollars for programs simply based on the fact they had an environmental title in front of the line item. This was because the escalating cost of DoD environmental funding needed results to warrant additional dollars. Second, the message Congress sent was, although they were dissatisfied with the pace of cleanup action, they would still fund programs designed to correct past

mistakes. Furthermore, Congress was concerned with the fact there were not enough trained personnel to handle the magnitude of the environmental problems.

DoD and Congress were both frustrated over the scope and increased complexity of environmental cleanup and Compliance issues. It appears that both DoD and Congress realized that the only way to keep pollution at a minimum was to institute innovative methods and take preventive measures. A General Accounting Office report on the DoD environmental compliance program (requested by the Senate MILCON Appropriations Subcommittee) noted several areas of concern.

> GAO found that since DoD never issued comprehensive guidance, the activities of the three services vary greatly. As a result there is limited visibility over much of the services' environmental spending. DoD estimates the cost of environmental compliance to be $13,500.0 million through fiscal year 1999. The Committee and even the GAO believes that environmental compliance costs could be even higher. Therefore, the DoD must take appropriate steps to ensure that each military service places appropriate priority on environmental problems. To this end, the Committee believes that pollution prevention must be afforded top priority. A new environmental ethic must be adopted by the military services and defense agencies. [Ref. 144]

For the Defense Department to be successful in reducing its environmental costs, it must adopt a positive attitude in incorporating environmental considerations in all aspects of its military planning. Proactive environmental awareness will avoid spending unnecessary resources when the DoD is on a budget diet. The next chapter focuses on DoD's Environmental Security requests for fiscal year 1995, and the environmental implications on the acquisition process.

IV. DOD ENVIRONMENTAL SECURITY PROPOSAL, FISCAL YEAR 1995

This chapter will address congressional oversight of DoD's $5.7 billion environmental security budget request. The review of DoD's environmental security program budget will use the new pillar policy described in the previous chapter. The goals and mission of each pillar will be discussed. The chapter will focus on the environmental pillar process and how these environmental programs fared under congressional oversight. Finally, this chapter will note the acquisition related environmental provisions that were recommended to the DoD. The impact of these decisions are discussed in Chapter V.

The environmental security request of $5.7 billion represents a 6 percent increase over 1994 spending. [Ref. 145] Furthermore, the request is almost 80 percent of the entire fiscal year 1995 Environmental Protection Agency (EPA) request of $7.2 billion. [Ref. 146]

A. ENVIRONMENTAL RESTORATION - CLEANUP

The fiscal year 1995 Defense Environmental Restoration Account budget request was for $2,180.2 million. These dollars provide identification, investigation, and cleanup of past contamination from hazardous substances and wastes; correction of other environmental damage, detection of unexploded ordnance; and demolition and removal of unsafe buildings, structures, and debris. [Ref. 147]

There were several goals in the fiscal year 1995 budget request for environmental restoration. The first goal was to continue or complete the cleanup process at 605 of the sites identified for restoration. The second goal was to establish a generic cleanup blueprint. The blueprint cleanup plan would categorize any DoD cleanup into one of three strategies. If these generic cleanup plans are successful, they could be exported and tailored for other military installations to expedite cleanup. The outgrowth would be standardized cleanup procedures with known costs, specific cleanup standards, and realistic schedules which can gauge the size of the environmental restoration effort. The third goal was to implement the "Fast Track" Cleanup Program at bases slated for closure. This program, announced by President Clinton on 2 July 1993, was part of a five stage initiative

that aims to speed the economic recovery of communities where bases are scheduled to close. The five part program integrates economic development, transition assistance, and environmental cleanup to facilitate early reuse of a base's assets. The final goal for the cleanup portion of environmental security is developing a risk management system. [Ref. 148]

1. The Authorization Committee Recommendations

The House Armed Services Committee (HASC) and the Senate Armed Services Committee (SASC) considered these goals in the National Defense Authorization Act for fiscal year 1995. Both the HASC and the SASC recommended no change to the budget request of $2,180.2 million for the DERA account. This request included $508.0 million for the BRAC cleanup. The BRAC authorizations will be discussed in section F.

a. The House Armed Services Committee

The HASC recommended $2,180.2 million for the environmental restoration account. In its review of DERA, the HASC suggested several reasons why it supported this year's budget request. The HASC was finally satisfied with the shift of DERA spending from studies to cleanup actions (see Figure 1, Chapter I). The Committee pointed out that the fiscal year 1995 budget request represented only a modest increase over the fiscal year 1994 National Defense Authorization Act. The Committee also noted that the budget recession of fiscal year 1994 cut the DERA by 15 percent and cut the BRAC environmental restoration programs by $100.0 million. [Ref. 149]

b. The Senate Armed Services Committee

The SASC was also "pleased that the DoD environmental restoration program was making real progress. Studies, a necessary part of the overall process, are being completed, and actual cleanup is being accomplished." [Ref. 150]

Nonetheless, the Committee was concerned with the blanket treatment of classifying military installations on the national priority list (NPL) or Superfunds which fall under the CERCLA study process. The SASC's concern was that NPL listing applied to an entire base when only a small portion of that facility

might be contaminated. It directed the Secretary of Defense and the Administrator of the EPA to reevaluate the process whereby military installations are scored and listed on the NPL with correctional recommendations. [Ref. 151] The SASC recommended that the DoD incorporate new technologies into its cleanup efforts to expedite cleanup. To that end, the Committee supported the Environmental Certification Program and other research and development efforts discussed in section *E.*

The SASC was specifically concerned with the cleanup progress at Formerly Used Defense Sites (FUDS). For some time this portion of the environmental restoration program had been overlooked, but not this fiscal year. The SASC realized that FUDS are incorporated into the entire DERP. It was concerned that the FUDS, due to their low profile, had not received the attention they deserved. There are approximately 8000 FUDS properties with minimal contamination and only 5 FUDS on the NPL. It urged that the sites which can be quickly cleaned up be fully funded to reduce the inventory of the FUDS sites.

The Committee was also concerned that the Department's FUDS funding account had been decreased from the fiscal year 1994 level of $32.3 million to the fiscal year 1995 requested level of $23.1 million. The SASC realized that these cleanup dollars for the FUDS are incorporated in the overall budget request for the DERA. The Committee recommended that these dollars be only a planning figure, not a limitation for the funding available for the FUDS program. [Ref. 152]

The SASC incorporated several environmental provisions in its Authorization bill for cleanup. The first was a prohibition on DoD affecting purchase of surety bonds or other financial instruments that guarantee its direct performance. The second was an extension of prohibition on the use of environmental restoration funds for payment of fines and penalties except when the fine or penalty imposed arises out of activities funded by the account. [Ref. 153] The HASC concurred in spirit with the SASC but stipulated the need for limitations of Environmental Restoration Funds for payment of fines and penalties from fiscal years 1995 through 1999. [Ref. 154] The Authorization Conference Report concurred with the HASC for limitation of Environmental Restoration Funds

for payment of fines and penalties from fiscal years 1995 through 1999. The bond issue was rescinded by the House in the Authorization Conference Committee Report. [Ref. 155]

The SASC's third recommended provision was to allow participation of Indian tribes in agreements for the defense environmental restoration process to the same extent as a state or other agency. This provision is not limited to lands under the direct control of Indian tribes but affects those lands which are a concern of an Indian tribe as well. [Ref. 156] The Authorization Conference Committee concurred with this provision.

c. The Authorization Conference Committee

The Authorization Conference Committee Report recommended DERA funding at $2,030.2 million for fiscal year 1995. There is no explanation for this $150.0 million decrease to the budget request in the Authorization Conference Committee report. Previous funding suggests several reasons for this decrease in the DERA. The first possible explanation was the general funding decline throughout DoD's budget. A second plausible reason was that the funding levels requested by the DERA were being channeled to fund other pillars. A third possible explanation, linked to the second, was that as sites are cleaned and returned to acceptable environmental standards, fewer dollars are needed to sustain this program. Those freed-up dollars become available to tackle other environmental challenges. Table 1 illustrates the cleanup portion of the DoD environmental budget.

REQUEST	HASC	SASC	CONFERENCE	CHANGE
2,180.2	2,180.2	2,180.2	2,030.2	150.0

Table 1
CLEANUP Authorization, Fiscal Year 1995
(Dollars Millions)

2. The Appropriations Committee Recommendations

The House Appropriations Committee and the Senate Appropriations Committee also appraised the Defense Environmental Restoration Account goals in their recommendation for the National Defense Appropriations Act for fiscal year 1995. Similar to the overall recommendations of the National Defense Authorization Act for fiscal year 1995, both the HAC and the SAC recommended changes to the budget request of $2,180.2 million for the DERA account. The Appropriations Conference Committee concurred with recommended cuts in the cleanup pillar.

a. The House Appropriations Committee

The House Appropriations Committee recommended $1,880.2 million for DERA, a reduction of $300.0 million. The HAC was concerned by the uncertainty that surrounded the requirements process for environmental cleanup at DoD installations and for the FUDS. As a secondary concern, the Committee was unsure whether the DoD could obligate all its fiscal year funds with the passage of the Superfund Reauthorization Act and its impact on DoD cleanup requirements. [Ref. 157]

b. The Senate Appropriations Committee

The Senate Appropriations Committee recommended a decrease to the DERA but only by $146.125 million. The SAC recommended that $2,034.075 million be made available for environmental restoration. The reason for the reduction revolved around several issues. In part, the trend of declining defense spending played a factor in this reduction. However, the SAC had deeper concerns with the DoD's methodology for budgeting for and subsequently spending its DERA appropriations. Because of these concerns, the SAC recommended several areas for DERA reductions.

First, the Committee recommended a $30.0 million reduction for environmental technology demonstration. The SAC believed this program was similar to other RDT&E efforts and should be budgeted in the RDT&E account. The SAC also denied environmental technology funding for the Navy and Marines. In the SAC's denial of the Navy's $6.1 million and the Marines $1.0 million it

stressed that these requests should compete with other environmental technology efforts under RDT&E accounts. [Ref. 158]

Second, the Committee was uncomfortable with how the DoD cleanup model prioritized and classified its cleanup activities under the Defense Priority Model (DPL). The SAC felt that DoD needed to reevaluate its spending at these sites, concentrating its resources at more critical sites. The SAC voiced several of the same concerns that the SASC expressed concerning military installations being arbitrarily classified as Superfund sites. The SAC cited a GAO report concerning how military installations are classified as Superfund sites on the NPL. The Committee also requested that the DoD coordinate with the EPA to review these Superfund sites and determine if those installations with limited contamination should be excluded from the CERCLA process.

Third, the SAC was uncomfortable with the potential liability which could result if any outside regulatory agencies challenged the DoD's assessments for sites classified as cleaned and warranting no further action. The DoD has completed cleanup at 11,136 of the 23,627 active and FUD sites. The Committee's concern was if there were a reversal of the DoD's findings, the potential liability and additional cleanup costs at these sites could have serious repercussions for defense readiness. [Ref. 159]

Finally, the SAC was concerned that DoD did not have a comprehensive plan for the entire cleanup process. According to the Committee, "DoD's plan must have a comprehensive process for reviewing sites, identifying the severity of contamination, and determining the potential for further, complicating environmental damage. A priority-based process for the allocation of budget resources will become increasingly necessary as DoD seeks to balance calls for immediate restoration of all sites with continuing declines in defense spending." [Ref. 160]

c. The Appropriations Conference Committee

The Appropriations Conference Committee allocated $1,780.2 million for the DERA account based on the concerns expressed by both the HAC and SAC.

[Ref. 161] This figure was $400.0 million below the budget request and $100.0 million lower than the HAC's recommendation for the DERA.

Table 2 illustrates the budget request, the difference between Appropriations Committees and the contrast between the request and the final recommended Appropriations.

Request	HAC	SAC	Conference	Change
2,180.2	1,880.2	2,034.1	1,780.2	(400.0)

Table 2
CLEANUP Appropriations Fiscal Year 1995
(Dollars in Millions)

There was no explanation in the Appropriation Conference Committee Report for this additional reduction to the DERA request. However, it appears that the Congress was unwilling to finance the DERA at previous levels without significant improvement and tangible results in the DoD cleanup efforts. Moreover, the DERA was now considered a maturing program. As such, it no longer needed to shelter and assist other environmental initiatives under the environmental restoration umbrella. Furthermore, increased congressional oversight suggested that environmental technology requests should be budgeted in the RDT&E account rather than rolled into the DERA request.

Table 3 compares the Authorization and Appropriations Committees recommendations for funding the DERA.

Request	2,180.2
Authorization	2,080.2
Change	(100.0)
Appropriations	1,780.2
Change	(400.0)

Table 3
CLEANUP FISCAL YEAR 1995 BUDGET
(Dollars in Millions)

B. ENVIRONMENTAL COMPLIANCE

Numerous federal statutes, coupled with state and local laws, provide a myriad of challenges to the Department of Defense. In an era of shrinking defense dollars the challenge is to both maintain and upgrade facilities to comply with the standards outlined by environmental legislation. Compliance avoids costly fines for failing to achieve these standards. Compliance with environmental regulations is imperative to maintain defense readiness. To meet this challenge, the DoD outlined three environmental compliance goals for fiscal year 1995.

First, DoD would conduct a 12 month self-audit at major military installations to identify compliance deficiencies and methods to remedy those shortcomings. Second, it would reduce open enforcement actions by 15 percent from 1993 levels. These fines and penalties were assessed at $8,077.0 million, $3,074.0 million of which has been resolved. Third, DoD would upgrade existing structures or build new facilities to comply with existing environmental regulations. These projects include upgrading fire training areas, constructing new waste water treatment plants, and upgrade almost 5000 underground storage tanks to comply with new ground water protection requirements.

The fiscal year 1995 compliance budget request was $2,182.0 million, which included $266.4 million in military construction projects. [Ref. 162] These military construction compliance projects are discussed in section *F*.

1. The Authorization Committee Recommendations

Both the House and the Senate Authorization Committees weighed DoD's compliance goals in their recommendations for the Department of Defense Authorization Bill for fiscal year 1995.

a. The House Armed Services Committee

The House Armed Services Committee recommended only $2,082.0 million for the compliance portion of the environmental security budget. The Committee did not explain why it reduced the budget request by $100.0 million. However, the committee pointed out that:

> The Federal Facilities Compliance Act has been in effect for over a year, and the Department has been paying fines for its non-compliance with environmental laws. However, these fines have yet to constitute even one-hundredth of a percent of the Department's overall costs for compliance. The Committee recommended that the Department work closely with regulators to anticipate environmental spending needs and to design training programs for base commanders so that they are adequately prepared to fulfill their duties in this area. [Ref. 163]

The HASC directed the Secretary of Defense (SECDEF) to assist base commanders in situations where they must choose a strategy for compliance when overlapping and often contradictory compliance regulations exist. The HASC also directed the SECDEF to assist base commanders to formulate joint memoranda of agreement with regulators to chart a compliance strategy. Finally, the Committee urged the EPA to participate fully in streamlining environmental regulations and assist base commanders (when requested) in compliance activities. [Ref. 164]

b. The Senate Armed Services Committee

The Senate Armed Services Committee did not mention the compliance pillar in its Authorization Committee report. According to a senior Senate Minority staffer, "If a particular Committee does not specifically cite a pillar for reduction, the Authorizations for environmental security budgets were usually approved at the requested funding level. The reason for this is that the pillar categories are not formal line items and therefore there are no limits on Authorization. Not citing the authorization funding levels for the pillars is often done intentionally, because the Committee members can fund "pork" projects under the environmental security blanket. The biggest recipients or offenders of these "pork" projects are the states of Hawaii and Pennsylvania." [Ref. 165] The Senior staffer confirmed that the SASC fully recommended the budget request for compliance.

c. The Authorization Conference Committee

The Authorization Conference Committee Report makes no direct mention for the final recommended funding for environmental compliance. However, the senior staffer confirmed that the compliance pillar received full financing. Table 4 depicts the Compliance funding by the HASC, SASC, and the final Conference Committee's recommendation.

Request	HASC	SASC	Conference	Change
2,182.3	2,182.3	2,182.3	2,182.3	0

Table 4
COMPLIANCE AUTHORIZATION FISCAL YEAR 1995
(DOLLARS IN MILLIONS)

2. The Appropriations Committee Recommendations

Both the House and the Senate Appropriations Committees weighed DoD's compliance goals in their recommendation's for the Department of Defense Appropriations Bill for fiscal year 1995.

a. The House Appropriations Committee

The House Appropriations Committee did not directly discuss the compliance pillar in its review of the budget request. However, indirectly the House concurred with the compliance budget request. [Ref. 166] The HAC did recommend an increase to the Army's *Environmental Compliance* account. The Army requested $49.907 million. The HAC increased the request by $2.0 million, earmarked for the Construction Engineering Research Laboratory (CERL) for an industry cost-shared demonstration of a 3000 HP low emission natural gas boiler. [Ref. 167]

b. The Senate Appropriations Committee

The Senate Appropriations Committee recommended full approval of the DoD's compliance portion of the fiscal year 1995 budget request. However, the SAC continued to have concerns about the execution of the compliance program. The SAC outlined the four basic categories of compliance activities: "level I - activities required to comply with existing legal mandates; level II - efforts which must be completed to avoid violation of further legal mandates; level III - projects which make a positive contribution to the environment but are not required by law; and operations and services (O&S) - recurring costs for manpower, travel, self-inspections, training, and other activities." [Ref. 168]

Based on previous environmental reports requested in the fiscal year 1994 Authorization Bill, the SAC found over half of the compliance funding is spent on O&S activities and not enough on level I activities as professed by the DoD. The SAC's findings raised unanswered questions concerning DoD's compliance expenditures.

The SAC was also concerned with the services shifting multimillion dollars between programs to fund environmental compliance. The SAC sites an example where the Navy planned to spend $267.5 million on O&M compliance

activities but now the DoD reports the Navy's actual expenditures are $311.6 million. Furthermore, the SAC also questions why there was such distinct differences in personnel cost to manage compliance issues between the services. For example, the Army with its 12 million acres of land, 2500 installations, and 510,000 active duty soldiers oversees a $791.280 million budget with support of 1623 military and civilian personnel. In contrast, the Navy requires 3402 personnel to oversee a $1,000.008 million budget for fiscal year 1995 compliance funding. The DoD's 1042 personnel in various worldwide defense agencies require a $320.768 million for compliance funding.

The SAC directed DoD's Office of Environmental Security to provide analysis and an explanation for these glaring differences in compliance management. The SAC's overriding concern was the extent to which these dynamic funding shifts have impacted the Services' ability to maintain readiness and meet their compliance obligations. The Committee concluded by suggesting that these contradictions in funding levels, coupled with manpower discrepancies amongst the Services, call into question the validity of the compliance budget request. [Ref. 169]

The Senate Appropriations Committee recommended $20.0 million for a new U.S. Pacific Command (PACOM) environmental compliance initiative. These funds were to assist PACOM to operate and maintain installations at remote bases located in the United States. These funds were in addition to the amounts appropriated to the Military Services in other O&M accounts. U.S. PACOM was required to provide the SAC with a report describing how these funds would be allocated at each of its installations for environmental compliance projects. The SAC stipulated that this report was to be submitted to the Committee not later than February 15, 1995. The SAC also directed that $2.5 million of the appropriation for defense-wide environmental compliance activities be used to establish the DoD land management training center. "The center's objective would be to avoid overuse by improving land management practices and military training coordination." [Ref. 170] Also the SAC recommended only the budgeted requested funding for the Army's *Environmental Compliance* account.

c. The Appropriations Conference Committee

The Appropriations Conference Committee recommended full funding of the compliance pillar for fiscal year 1995. The Appropriations Conference Committee specified $51.574 million in RDT&E account that would be earmarked in the Army's *Environmental Compliance*. The Conference Committee concurred with the HAC's recommended increase of $1.607 million and earmarked it for construction of an industry cost-shared demonstration of a 3000 HP low emissions natural gas boiler. Table 5 illustrates the final Compliance pillar funding. There were no changes to the final funding request totals, though the individual accounts that comprise the compliance pillar were adjusted internally.

Request	2,182.3
Authorization	2,182.3
Change	0
Appropriations	2,182.3
Change	0

Table 5
COMPLIANCE Funding Fiscal Year 1995
(Dollars in Millions)

C. ENVIRONMENTAL CONSERVATION

DoD requested $106.1 million in fiscal 1995 for natural and cultural resources conservation. This request included $10.0 million for the Legacy Natural Resources Management Program and $96.0 million in the Services' conservation programs. [Ref. 171]

1. The Authorization Committee Recommendations

Both the House and the Senate Authorization Committees weighed DoD's compliance request for Legacy Natural Resources Management Program and the Services' conservation programs.

a. The House Armed Services Committee

In its review of the conservation program, the HASC recommended full funding of these programs. [Ref. 172]

b. The Senate Armed Services Committee

There is no direct mention of the conservation program in the SASC Authorization Act. However, the assumption is that this account received full funding.

c. The Authorization Conference Committee

The Legacy Natural Resources Management Program and the Services' conservation programs were fully funded at the budget request by the Authorization Conference Committee. [Ref. 173]

2. The Appropriations Committee Recommendations

The House and Senate Defense Appropriations Committees considered DoD's compliance request for Legacy Natural Resources Management Program and the Services' conservation programs.

a. The House Appropriations Committee

The HAC recommended full funding of this program in its review of the fiscal year 1995 budget. The HAC also recommended that the DoD place a higher priority on funding environmental conservation programs in future years' budget requests. [Ref. 174]

b. The Senate Appropriations Committee

The Senate Appropriations Committee, chaired by Mr. Inouye (D. HI), placed heavy emphasis on protecting the natural beauty and unique flora and fauna found in the State of Hawaii. The SAC therefore approved $5.7 million for a proposed ecosystem management program which would assist the Army in meeting its legal obligations under the Endangered Species Act, while preserving the readiness of the force. The SAC also approved an additional $15.0 million only to purchase a 10 year easement from Waialua Sugar Co., on the Island of Oahu for the discharge of waste water produced by military activities at Schofield Barracks. In other matters, it approved an increase of $1.5 million to acquire and operate asbestos conversion equipment for Aberdeen Proving Ground's Asbestos Abatement Program. [Ref. 175]

The Legacy Natural Resources Management Program budget request for $10.0 million was increased by $40.0 million. The Committee directed that the

$50.0 million would be available only to continue the Legacy Program. Furthermore, the Committee directed $1.0 million for the Federal Energy Management Program to improve DoD's buildings dedicated to humidity removal, ventilation, and air-conditioning. [Ref. 176]

c. The Appropriations Conference Committee

In the Appropriations Conference report, the "Conferees provided an increase of $5.7 million in the Army's O&M account only to proceed with the proposed ecosystem management program in State of Hawaii as defined by the Senate." [Ref. 177] The Appropriations Conference Committee recommended funding the environmental conservation program at $146.1 million, an increase of $40.0 million to the budget request. The increase was earmarked for the Legacy Program cited by the SAC. [Ref. 178]

Table 6 depicts the Authorization and Appropriations Conference Committee's funding levels for the fiscal year 1995 compliance pillar.

Request	106.0
Authorization	106.0
Change	0
Appropriations	146.0
Change	40.0

Table 6
CONSERVATION FISCAL YEAR 1995 BUDGET
(Dollars in Millions)

D. POLLUTION PREVENTION

DoD's Pollution Prevention (P^2) program was designed to eliminate the source of pollution before it causes a lingering legacy of environmentally related problems. Today's modern weapon systems produce 80 percent of DoD's hazardous materials that can be tied directly to the production and disposal of these systems. [Ref. 179] To counter this problem, DoD has initiated new "greener" weapon systems procurement practices which reduce pollution emission at the beginning of the development process before a system is fielded.

The DoD request for P^2 for fiscal year 1995 was $392.0 million. These funds would support a host of programs to include those required by Executive Order 12856 and Executive Order 12873. Executive Order 12856 was a consolidation of the Federal Compliance with Right-to-know Laws and Pollution Prevention requirements, while Executive order 12873 integrates the Federal Acquisition, Recycling, and Waste Prevention programs. These pollution prevention programs will be discussed in greater depth in Chapter V.

1. The Authorization Committee Recommendations

Funding levels for this program are found throughout the Service's budgets under the O&M, RDT&E, and procurement accounts. This program was viewed favorably by Congress as a step in the right direction in curtailing DoD's pollution problems.

a. The House Armed Services Committee

The HASC recommended full funding of the pollution prevention initiatives. [Ref. 180] The Committee commended the DoD on this program, noting that prevention is a critical component in resolving environmental problems. The HASC encouraged the DoD to do more in this area and recommended that the Department work with experts in this field both from private industry and non-profit agencies. [Ref. 181]

b. The Senate Armed Services Committee

The SASC was concerned with DoD's efforts in the area of Recycling. The DoD Recyclable Materials Program, which was established in the National Defense Authorization Act for Fiscal Year 1993, came under scrutiny by the SASC.

The DoD recycle program was criticized in a December 1993 GAO report. The GAO report was especially critical of the management and administration of the Recyclable Materials Program. The SASC concurred with the GAO findings and recommended that:

> The DoD prescribe new or revised recycling regulations, subject to public notice and comment. These new regulations should address the many competing and sometimes conflicting interpretations of the program; resolve the differing approaches and requirements of the Services and defense agencies; establish a clear definition of the nature of materials eligible for the program; establish a uniform method of accounting for recycling proceeds and regulated costs; and establish a uniform method of material controls. [Ref. 182]

If DoD fails to comply by 1 March, 1996, the SASC threatened to terminate the special authority for military installations to retain their portion of the "cash for trash" Morale, Welfare, and Recreation activities proceeds. Furthermore, an unfavorable response could translate into additional oversight of all DoD programs that have potential for recycling. The SASC fully funded the Pollution Prevention pillar for fiscal year 1995.

In other related Defense-Wide environmental pollution prevention programs, the SASC recommended $4.5 million for the Army Environmental Policy Institute in the O&M account. This was $1.5 million above the budget request. The SASC noted that this Institute has helped the Army take a strategic look at its environmental obligations and identify issues and problems that will arise in the future. [Ref. 183]

c. The Authorization Conference Committee

The Authorization conference committee recommended full funding of the pollution prevention program at the requested budget level of $392.0 million.

2. The Appropriations Committee Recommendations

The Appropriations Committees were also encouraged by DoD's proactive pollution prevention initiatives in the fiscal year 1995 budget. In the hearings before the Defense Subcommittee of the House Appropriations Committee, there were numerous questions concerning the impact of pollution prevention policies. The questions revolved around whether DoD has incorporated environmental life-cycle assessment principles into its pollution prevention pillar. These life-cycle questions specifically addressed the feasibility of collective research to develop new developmental processes and materials. They also questioned whether such research in life-cycle assessment was cost effective. [Ref. 184]

a. The House Appropriations Committee

The House Appropriations Committee did not address the pollution prevention pillar in its review of the budget request.

b. The Senate Appropriations Committee

The Senate Appropriations Committee did not address the pollution prevention pillar in its review of the budget request.

c. The Appropriations Conference Committee

The Appropriations Conference Committee funded $382.0 million for P^2 projects. [Ref. 185] This $10.0 million reduction was consistent with the overall reduction for the defense budget. Neither the HAC or SAC made direct mention of this program in their review of environmental programs.

The budget request did not include funding for electric vehicles, even though this was stated as a P^2 goal. The Appropriations Conference Committee took note of this pollution prevention goal and funded $15.0 million for demonstrations underway in the Advanced Research Projects Agency (ARPA) Electric Vehicle Program. The Committee concurred with the SAC's funding recommendation, an increase of $5.0 million over the House, even though DoD did not request a continuation of this program. [Ref. 186] Table 7 illustrates the differences in the Authorization and Appropriations funding levels for fiscal year 1995.

Request	392.0
Authorization	392.0
Change	0
Appropriations	382.0
Change	(10.0)

Table 7.
Pollution Prevention funding fiscal year 1995
(Dollars in Millions)

E. ENVIRONMENTAL TECHNOLOGY

The DoD environmental technology strategy is to match technology investments to real environmental needs. The goals of the program are to identify technologies that provide the highest payback, to engage in partnership to stimulate innovative dual-use technology development, and to expedite the use and commercialization of technologies.

Though Environmental Technology is not considered a formal pillar, dollars are requested through the Services' O&M, RDT&E and DBOF accounts for various programs. The basic DoD assumption was that investment in new environmental technologies would reduce cleanup costs by 25 percent. The SERDP technology thrust areas include the four pillars plus *Global Environmental Change* and *Energy Conservation/Renewable Resources*. [Ref. 187]

DoD requested $299.0 million for environmental technology programs. This included $15.0 million for the Environmental Technology Certification program, $112.0 million for the SERDP and $172.0 million in the components' requests. [Ref. 188] The Service's component requests were $64.0 million for the Army, $73.2

million for the Navy, and $22.0 million for the Air Force. The program also requested $30.0 million in the DERA account which was rejected by the SAC, mentioned in the DERA discussion. This section will first review the components' requests for environmental technology and then the Defense-wide requests that comprise the Environmental Certification Program, the SERDP, SEMATECH, and other program requests.

1. The Authorization Committee Recommendations

The Authorization Committees considered the DoD request for environmental technology in its review of the fiscal year 1995 budget request. The review of the environmental technology programs considered the Services' environmental RDT&E accounts, the Environmental Technology Certification account, and the SERDP.

a. The House Armed Services Committee

The HASC was troubled with the DoD's request for only $298.8 million for environmental research and technology funding. The Committee was troubled because everything the DoD has said suggested that RDT&E would curtail cleanup and compliance costs. The DoD request was $127.0 million less than the previous year and sent mixed signals.

The Committee directed the Secretary of Defense to report the status of environmental research projects currently receiving money in the technology based and advanced development accounts by 1 January 1995. This report would include projects mature enough to move into engineering and manufacturing development by fiscal year 1996. The HASC recommended a total funding of $308.0 million. This recommendation included the request for the Services, the Defense-wide accounts that comprise the Environmental Technology Certification, SEMATECH, the SERDP and other line items. [Ref. 189]

(1) Army. The Army's total budget request for environmental technology was $65.0 million. Tracking this funding figure proved challenging since the dollars are not clearly earmarked for environmental technology projects. The funding is parcelled out to the four established environmental pillars. For example, there is $11.668 million for cleanup, $9.597 million for compliance,

$3.137 million for conservation, and $41.1671 million for pollution prevention projects. The line items requested for this funding revolved around PE 61102A - *Defense Research Science*, *PE* 65801 - *Defense Technical Information Center* and *PE* 62720A - *Environmental Quality Technology*. The first two line items proved difficult to track the individual project requests. The total request for *PE* 61102A - *Defense Research Science* was $195.346 million. Approximately $15.117 million in the *Defense Research Science* account was earmarked for environmental technology projects. The *PE 65801 - Defense Technical Information Center* total request was $42.949 million, of which approximately $25.269 million was requested for environmental technology under the pollution prevention pillar. [Ref. 190] The Army's *Environmental Quality Technology* portion of the budget request was for $25.887 million. The final authorization recommendation data was not available.

(2) Navy. The Navy's budget request for environmental technology was $73.2 million. This request included $7.1 million in the O&M ($1.0 million for the Marine Corps) account, $61.4 million in the RDT&E account, and $4.7 million in the DBOF account. [Ref. 191] In the Navy's RDT&E budget, there are two line items for environmentally related items. These two line items are *PE* 63712N - *Environmental Quality and Logistics Advanced Technologies* and the *PE* 63721N - *Environmental Protection*. The Navy's requested $21.024 million for *Environmental Quality and Logistics Advanced Technologies* and *$51.101 million Environmental Protection*. The total of these two requests equal $72.125 million. However, $6.614 million was allocated to either cleanup ($6.405 million) or pollution prevention ($.209 million). [Ref. 192] The resulting number for the RDT&E account was $65.511. The data does not specify if the environmental RDT&E funding was earmarked for other environmental pillars which would account for the difference of $4.1 million of the $61.4 million RDT&E request.

The HASC recommended a total of $23.024 for the Navy's *Environmental Quality and Logistics Advanced*. This represented a $2.0 million increase to this Navy account. This additional funding was earmarked for imaging technologies. The HASC also recommended *no change to the $*23.024 million *request for Environmental Quality and Logistics Advanced technologies*. [Ref. 193]

The HASC did not comment on the requests for the $7.1 million in the O&M account. In addition, the *Environmental Protection* account was increased to $52.901 million. The $1.8 million increase was for a process called "plasma-electronic waste conversion." The process is intended to assist the Navy by reducing the weight and volume of shipboard wastes without producing toxic emissions. The Secretary of the Navy was directed to establish a pilot program to test the process on shipboard use. If this pilot program is successful it could have applications processing other waste. [Ref. 194] The HASC did not discuss the Navy's O&M or DBOF funding requests.

(3) Air Force. The Air Force's Environmental Technology request was approximately $22.0 million, all of which was located in the RDT&E account. The Air Force requested RDT&E funding under several line item for various environmental pillars. These included $42.876 million for *PE* 65856F - *Environmental Compliance*, $7.045 million for *PE 602206*F - *Civil Engineering and Environmental quality*, and $16.216 million for *PE* 708054F - Pollution Prevention.

The majority of the $42.876 million for *PE* 65856F - *Environmental Compliance*, was for the compliance pillar request. However, $9.8 million of that funding request was earmarked for environmental technology projects. Of the Air force's $16.216 million request for *PE 708054F - Pollution Prevention*, $5.8 million was also earmarked for environmental technology projects. Therefore, the Environmental Technology request was composed of $9.8 million from *Environmental Compliance*, $5.8 million from *Pollution Prevention*, and $7.045 million for *Civil Engineering and Environmental quality*. The total funding for environmental technology, including the earmarked funds in *Environmental Compliance*, *Pollution Prevention*, and all of the *Civil Engineering and Environmental quality* requests, equals $22.6 million. The data cites the requested dollar amounts as estimates and does include rounding errors. [Ref. 195]

The HASC approved the budget request, as well as the entire *Environmental Compliance* and *Pollution Prevention* request. [Ref. 196]

(4) Defense-wide Activities. There are several important accounts in this section that received attention by the HASC. These included the *Environmental Technology Certification*, SERDP, SEMATECH, and *Historically Black Colleges and Universities* accounts.

The House Armed Services Committee recommended a $10.0 million increase to the requested $15.0 million for PE 604708D - *Environmental Technology Certification*. The Committee stated, "this program will take promising remediation and waste management technologies through the tests necessary to win the approval for use from the U.S. Environmental Protection Agency." [Ref. 197]

The HASC recommended funding the budget request of $111.9 million for the SERDP. The SERDP received accolades from the HASC for minimizing duplication in its environmental research efforts and for better focusing its research projects. Moreover, the Committee was pleased that DoD acted on a committee directive that computerized a cross-walk between user needs and research efforts, and that this new data base has proved fruitful for DoD. However, the Committee expressed concerns that too many of the SERDP's research projects, though successful in the laboratory, were not being used. [Ref. 198]

The HASC recommended $90.0 million for SEMATECH under the Defense Conversion, Reinvestment and Transition Assistance Act Amendment of 1994. The Committee has recommended for the past two years that 10 percent ($9.0 million) of the $90.0 million be authorized for environmentally conscious manufacturing techniques for the semiconductor industry. [Ref. 199]

The HASC recommended an increase of $13.5 million to the *Innovative Environmental Security Technology Systems* account, with $4.0 million earmarked for bioremediation research. The Committee also earmarked $5.0 million for continued unexploded ordnance research and testing at Jefferson Proving Ground and $4.5 million for DoD programs and an Agriculture program in biotechnology. [Ref. 200]

In other defense-wide RDT&E funding, the HASC recommended that an additional $10.0 million be available in support of

Historically Black Colleges and Universities. These dollars would be earmarked to establish training for women in environmental, computer, and physical sciences, where such activities can be demonstrated to support defense reinvestment and conversion policy objectives. These funds can also be applied to improving facilities through the use of existing funds to support such academic training. [Ref. 201]

b. The Senate Armed Services Committee

The SASC also considered the DoD environmental research and development cost saving initiatives in considering its recommendation of the environmental technology recommendation. The SASC recommended $331.812 million in environmental technology initiatives.

(1) Army. The SASC recommended $30.887 million for the Army's *Environmental Quality Technologies* account. The Committee explanation for the additional $5.0 million funding increase was for *Project Plowshares*. This project is a computer simulation program to produce realistic and unpredictable conditions to train personnel in disaster relief efforts. The program was originally designed for battlefield commanders and was adapted by the Army's Simulation, Training, and Instrumentation Command for civil authorities coping with natural disasters. The State of Florida has expressed interest in contributing resources to this joint project as a result of the Hurricane Andrew disaster. [Ref. 202]

(2) Navy. The SASC approved the Navy's requested $21.024 million for *Environmental Quality and Logistics Advanced Technology* without change. However, the Committee concurred with the HASC and recommended $52.901 million for the *Environmental Protection* account. The additional $1.8 million was earmarked for "plasma-electronic waste conversion." [Ref. 203]

(3) Air Force. The SASC approved the full funding of the Air Force's environmental technology request of $22.0 million without comment.

(4) Defense-Wide Activities. The SASC supported the DoD request for $15.0 million to establish and conduct an Environmental Technology Certification program to demonstrate the effectiveness of the new technologies at military sites. In its review of new environmental technologies, the SASC urged the

DoD to work with the EPA and state regulators to identify cost-effective technologies that could be incorporated into the cleanup program. The SASC anticipated potential cost savings if new and efficient cleanup technologies were used. However, the Committee was aware of the reluctance to use new technologies and the regulatory problems involved in using these new technologies in reuse plans. [Ref. 204]

The SERDP received significant support from the SASC, with an increase of $59.0 million over the budget request. The SASC recommended the SERDP receive $170.0 million. The Committee was pleased with the SERDP's performance and the appointment of a new full-time director. The SASC noted that early research proposals were ready for the demonstration phase so they can be made available to the private sector as quickly as possible. The Committee remained fully committed to the global environmental change projects previously approved for funding by the SERDP Council and urged the continuation of these projects through phase II demonstration. The Committee expected a smooth transition of these projects to an unspecified federal agency that will be the primary user of these new systems. [Ref. 205]

The SEMATECH request was fully approved at the recommended budget request but without comment on the HASC's directive for environmentally conscious manufacturing techniques.

The SASC concurred with the HASC on a recommendation of $35.0 million for the *Historically Black Colleges and Universities* account. The Committee was also concerned about other environmental education opportunities in the RDT&E account. The SASC increased the *Environmental Education Opportunities Program* by $8.0 million over the budget request for fiscal year 1995. This increase was to continue the Environmental Education Opportunities Program established pursuant to section 4451 of the National Defense Authorization Act for 1994 and the National Defense Act for fiscal year 1993. The program provides scholarships for environmental training at the graduate and undergraduate level. The SASC continued to have concerns about the shortage of well-trained environmental professionals in DoD. This program provides the DoD with

qualified well-trained environmental professionals and gives assistance to individuals whose traditional defense oriented jobs were abolished as a result of the defense drawdown. [Ref. 206]

c. The Authorization Conference Committee

The Authorization Conference Committee considered both the HASC's and the SASC's recommended funding in its deliberation of the environmental technology budget request.

(1) Army. The Authorization Conference Committee concurred with the HASC recommendation and funded $39.387 million for the Army's *Environmental Quality Technology* program. [Ref. 207]

(2) Navy. The Navy's *Environmental Quality and Logistics Advanced Technologies* request for $21.024 was fully funded by the Authorization Conference Committee. [Ref. 208] In addition, the Conference Committee concurred with the recommended funding of $52.901 million for the Navy's *Environmental Protection* account. The Additional $1.8 million was earmarked for "plasma-electronic waste conversion."

(3) Air Force. The Air Force's $22.0 million received full funding at the budget request. The portions of this funding included $42.876 million for *PE* 65856F - Environmental Compliance, $7.045 million for *PE* 602206F - Civil Engineering and Environmental quality, and $16.216 million for *PE* 708054F - Pollution Prevention.

(4) Defense-wide Activities. The Authorization Conference Report agreed with the need for pilot demonstration projects for new technologies and methods for more effective and efficient environmental restoration. However, the Conference Committee funded the HASC's recommended $25.0 million vice the SASC's recommended $15.0 million for *Innovative Environmental Technologies Certification*. [Ref. 209]

The Defense Authorization Conference Committee concurred with the HASC's recommendation for $111.9 million for the Strategic Environmental Research Defense Program which equalled the budget request. The Conferees were pleased that the new executive director of the SERDP was now in

place. The Committee also urged the new director and the director of the SERDP Council to bring into the SERDP program personnel from either inside DoD or outside to run this program. "The Conferees also urged the Council to coordinate the SERDP program to demonstrate and test environmental technologies closely with the environmental technology program funded in the Office of the Deputy Under Secretary of Defense for Environmental Security. " [Ref. 210]

The SEMATECH program was funded at the budget request of $90.0 million. However, the Conference report did not stipulate whether 10 percent of the funding would be earmarked according to the HASC's directive for environmentally conscious manufacturing techniques.

The Authorization Conference Committee receded to the HASC funding of $25.0 million for *Historically Black Colleges and Universities.* [Ref. 211]

2. The Appropriations Committee Recommendations

The Appropriations Committees considered the DoD initiatives for advancing innovative technologies in curbing pollution and the advances the Services made in environmental technology.

a. The House Appropriations Committee

The House Appropriations Committee recommended $331.812 million in environmental technology.

(1) Army. The HAC increased the funding level to $40.0 million for the Army's *Environmental Quality Technology* program. The increase to this account included a $0.5 million to the Naval Surface Warfare Center, Crane Division, $5 million to Jefferson Proving Ground for an unexploded ordnance project, $4.5 million for a joint agriculture/DoD project, $5 million for the Facility Management and Monitoring System (FEMMS), $5.4 million for the Hawaii Small Business Development Center, and $1 million for Saltburg Remediation Technology. [Ref. 212]

The HAC also increased the Weapons and Munitions Technology account by $10.0 million, to $38.163 million. $4.0 million was to be provided for prove-outs of new advanced materials to include black powder substitutes. The Committee recommended $6.0 million to establish the National

Center for Life-cycle Environmental Technologies at the Army's Armament Research, Development, and Engineering Center (ARDEC), Picatinney Arsenal. [Ref. 213]

(2) Navy. Both the Navy's $6.1 million and the Marine Corps $1.0 million in the O&M account for environmental security were denied by the HAC. The HAC did not comment on the denial. The Committee recommended full funding of the Navy's *Environmental Protection* and the *Environmental Quality and Logistics Advanced Technologies* account.

(3) Air Force. The funding requests for *Civil and Environmental Engineering Technology* were increased to $13.5 million. The $5.0 million increase was earmarked for spray casting as an alternative metalization process to conventional electroplating and other mineral finishing processing. [Ref. 214] The HAC recommended without alteration the requests for *Environmental Compliance* and *Pollution Prevention*. [Ref. 215]

(4) Defense-wide Activities. The Environmental Technology Certification program, entitled *Innovative Environmental Security Technology Systems* by the HAC, received the recommended budget request of $15.0 million. The HAC's budget recommendation earmarked funding for specific projects. The HAC recommended $18.0 million for the competitive, cost-shared near term Climate Change Fuel Cell program. This program would ensure the cost-sharing methodology by the federal contribution of $1000 per KW. It would also require that the share of unit costs includes installation, that operation could not to exceed one third of the total cost, and that priority consideration given to power plants planned for DoD installations. [Ref. 216]

The SERDP funding request was cut by $15.0 million by the House Appropriations Committee. The HAC recommended that only $96.907 million be appropriated to the SERDP. The HAC recommended the reduction because of the low obligation rates experienced by the SERDP program in fiscal year 1994. [Ref. 217]

The SEMATECH request for $90.0 million was approved by the HAC but, the environmental provision authorized by the HASC was not mentioned.

b. The Senate Appropriations Committee

The Senate Appropriations Committee weighed DoD environmental research and development cost saving initiatives and recommended $329.012 million in environmental technology.

(1) Army. The SAC recommended an increase to the Army's *Environmental Quality Technology* program but only to $31.287 million. This was $9.6 million less than the HAC's recommended funding increase. The Committee provided the $5.4 million increase for the Agribusiness Development Corporation in Hawaii. The other two budget line items which comprised the Army's request were *PE 601102A - Defense Research Science*, which was not fully funded, and *PE 65801 - Defense Technical Information Center*, which was fully funded. The former account received a recommended funding cut in the total line item, but this did not address the Army's environmental technology program.

(2) Navy. The Navy's environmental technology request of $73.2 million was not fully funded. The Navy's O&M environmental technology request for $7.3 million, which included $1.0 million earmarked for the Marine Corps, was denied by the SAC, as noted in the cleanup discussion. The Navy also requested $61.4 million in the RDT&E account. In the RDT&E account, the Senate Appropriations Committee recommended funding only the budgeted request of $21.024 million for *Environmental Quality and Logistics Advanced* Technologies. However, in the Navy's *Environmental Protection* request for $51.101 million, the SAC recommended $48.801 million. The data did not specify whether the cuts were earmarked in the cleanup, pollution prevention, or environmental security programs which the *Environmental Protection* request supports. The Navy's DBOF request for $4.7 Million was not addressed by the SAC.

(3) Air Force. The SAC recommended the $22.0 million for the budget request. This included full recommended funding for *Civil and Environmental Engineering Technology, Environmental Compliance* and *Pollution Prevention.*

(4) Defense-wide Activities. The *Innovative Environmental Security Technology Systems* received a $20.0 million increase above the $15.0 million budget request. The additional funding was for a Climate Change Fuel Cell Program, bioremediation technologies, a Natural Gas Liquefier Program, and a demonstration of Terra-Vit hazardous waste treatment technology in the state of Hawaii. [Ref. 218]

The SAC's recommendation for SERDP funding did not change from the budget request of $111.9 million.

The SAC also approved the SEMATECH recommendation at the budget request but did not allude to the HASC's environmentally conscious manufacturing techniques.

In other environmental RDT&E concerns, the SAC noted that not enough coordinated research was being accomplished to identify alternatives to ozone depleting substances. The SAC observed that the Services would spend approximately $75.0 million in fiscal year 1995 to identify alternatives for ozone depleting substances. The Committee did not believe that a coordinated development plan existed. Therefore, the Committee directed the Deputy Under Secretary of Defense for Environmental Security to prepare a detailed report, not later than May 1, 1995 on all DoD investments to develop alternative to ozone depleting substances.

The SAC also supported increased funding for environmental education programs. These included increasing the *Historically Black Colleges and Universities* account to $25.0 million and earmarking $8.0 million in *Defense Research Sciences* for the Environmental Education Opportunities Program.

c. The Appropriations Conference Committee

The Appropriations Conference Committee weighed the HAC's and SAC's funding recommendations in the $278.3 million request for environmental technology.

(1) Army. The Appropriations Conference Committee increased the funding for the Army's $65.0 million request. The Committee increased funding of the Army's *Environmental Quality Technology* program to $46.954 million. The increase to this account included $0.167 million to the Naval Surface Warfare Center, Crane Division, $5 million to Jefferson Proving Ground for an unexploded ordnance project, $4.5 million for a joint Agriculture/DoD project, $5 million for the Facility Management and Monitoring System (FEMMS), $5.4 million for the Hawaii Small Business Development Center, and $1 million for Saltburg Remediation Technology. [Ref. 219]

The *Defense Research Science* account received increased funding with $10.0 million earmarked for environmental technology. [Ref. 220] The data did not indicate the total Army's environmental technology funding.

(2) Navy. The Appropriations Conference Committee concurred with the HAC and funded $23.024 for the Navy's *Environmental Quality and Logistics Advanced* Technologies. However, the Appropriations Conference Committee curtailed the Navy's *Environmental Protection* request for $51.101. The SAC recommended $48.801 million and the HAC recommended funding the budget request. The Appropriations Conference Committee concurred with the SAC's recommendation. The cut in funding was earmarked against the Navy's RDT&E ordnance reclamation and plasma electric waste converter programs. The Appropriations Conference Committee also encouraged the Navy to work with the Battery Metrics Lab in Portland, Oregon on new innovations to address battery life and disposal. [Ref. 221]

(3) Air Force. The Air Forces requested funding of $22.0 million for its environmental technology account was reduced in the Conference Committee to $21.455 million. The *Civil and Environmental Engineering Technology* was reduced in funding to $6.5 million. This reduction concurred with the HAC's request. The Committee did not explain this reduction in the Conference Report. The requests for *Environmental Compliance* and *Pollution Prevention* were funded at the budget request. [Ref. 222]

(4) Defense-wide Activities. The Appropriations Conference Committee concurred with the SAC's recommendation and funded a total of $44.5 million for *Innovative Environmental Security Technology Systems* to include the $18.0 million earmarked for the Climate Change Fuel Cell Program, $4.0 million for Bioremediation, $3.5 million for Terra-Vit, $3.5 million for the Natural gas liquefier project, and $5.0 million for the Navy's Plasma energy waste disposal system. [Ref. 223]

The SERDP did not receive favorable funding in the Appropriations Conference Committee. The original budget request for $111.9 million was slashed to $61.907 million. The significance of this decline is not discussed in the Appropriation's Conference Committee Report. However, the discussion by the HAC gives possible insight into the reason for this $50 million reduction. The HAC noted that the SERDP had not been able to obligate all its funding in past fiscal years. [Ref. 224]

The Committee did agree to fund $25.0 million for the *Historical Black Colleges and Universities* program. The Appropriations Conference Committee also cited this initiative for environmental education and recommended the increase of $10.0 million to match the Authorization Conference Committee's recommendation. [Ref. 225] There was no mention of the $8.0 million for other environmental scholarship programs.

The Appropriations Conference Committee also mentioned environmental progress under the Army's *Weapons and Munitions - Engineering Development* account The Committee "encouraged the Department of the Army to utilize the capabilities of the Armament Research, Development, and Engineering Center (ARDEC), Picatinney Arsenal, New Jersey in the development of life-cycle environmental technologies for use in the production of Army weapon systems." [Ref. 226]

F. MILITARY CONSTRUCTION

The Military Construction (MILCON) account is critical for improving the readiness of the DoD's military missions by upgrading military bases and facilities to comply with existing environmental laws and regulations. The budget request

for environmental programs funded in the MILCON account fiscal year 1995 was "$5.0 billion for construction, including Base Realignment and Closure and family housing new construction and improvements; $2.8 billion for family housing operations, maintenance and leasing; and $1.8 billion for BRAC activities, of which $0.5 billion was for environmental cleanup and compliance, and $1.3 billion was for other BRAC efforts. Land sales revenue from the BRAC account offsets the DoD's total request of $8.4 billion." [Ref. 227] Based on a directive in the National Defense Authorization Act of 1994, the Services used the Priority Investment Model to structure their funding requirements for Military Construction projects.

1. Army Military Construction

The fiscal year 1995 Army Military Construction request included $10.7 million for three environmental compliance programs. These projects included $5.2 million for water tanks and $1.2 million for a fuel containment facilities upgrade for an above-ground storage tank at Kwajalein Atoll. These two projects would satisfy the Compact of Free Association between the United States and the Marshall Islands. The third compliance construction project is a $4.3 million sewage treatment plant at Camp Bullis, Texas. [Ref. 228]

2. Navy Military Construction

The Navy requested $320.0 million for military construction projects under the Priority Investment Model. The Navy's budget for construction projects was approximately 27 percent for environmental safety and compliance, 33 percent for quality of life, 24 percent for mission support, and about 15 to 16 percent for planning and design. [Ref. 229]

In testimony by Rear Admiral Jack E. Buffington, the Navy requested $85.0 million for 17 environmental compliance projects. The $85.0 million request for environmental and safety compliance construction or upgrade projects included sanitary and waste water treatment facilities; an oil spill prevention facility; fuel storage facility; a hazardous/flammable storage facility; an abrasive blast facility; and a fire fighting facility. [Ref. 230] In a statement by Cheryl Kandaras, Principal Deputy Assistant Secretary for Environment, Department of the Navy, the environmental construction budget request was $77.8 million, specified for 13

projects to include the Marine MILCON requests. [Ref. 231] The Office of the Deputy Under Secretary for Environmental Security lists the Navy's environmental MILCON request at $77.8 million, which is the figure used in this analysis. [Ref. 232]

The Navy's MILCON project requests were planned to avoid environmental compliance fines and remedy Class I violations. Class I violations apply to installations already in violation of federal, state, or local laws. The Marines Corps also requested two environmental construction projects at Camp Lejeune for oil spill prevention and at Quantico, Virginia to replace a sewage treatment plant included in the environmental compliance projects. The Navy believes that it must fund the most urgent mission support and quality of life projects on equal priority with environmental compliance projects.

The potential problems expressed by General Reinke, in congressional testimony referring to the Marine Corps, can also be applied Defense-wide, i.e., that environmental compliance will continue to dominate the MILCON program in the coming years.

> Our utilities infrastructure is approximately 40 years old. This aging infrastructure, along with stringent environmental compliance requirements, will cause expenses to continue to take a large portion of the Marine Corps MILCON program and ultimately cause a backlog for mission support and quality of life projects to increase. [Ref. 233]

3. Air Force Environmental MILCON

The Air Force requested $105.3 million for 42 environmental construction projects. These projects include waste water and storm water collection and treatment facilities (19 projects at $52.0 million), underground fuel storage tanks (11 projects at $30.6 million), fire training facilities (5 projects at $7.4 million), fuel dispensing systems (2 projects at $6.2 million), emission control facilities (2 projects at $4.6 million), and hazardous waste material storage treatment facilities (3 projects at $4.6 million). [Ref. 234] These programs were requested to satisfy

the compliance deadlines within five years and to comply with the Resource Conservation and Recovery Act.

The Air Forces's environmental compliance request represents 30 percent of the total MILCON budget. Of that 30 percent for environmental compliance construction, the Air Force's Active, Guard, and Reserve installations receive 20 percent, 55 percent, and 25 percent respectively. [Ref. 235]

4. The Authorization Committee Recommendations

The Authorization Committees considered the Services MILCON budget requests in the fiscal year 1995 budget recommendation. Several of these Military Construction projects were earmarked to comply with environmental legislation and prevent further environmental problems.

a. The House Armed Services Committee

The HASC recommended no change to the Services' environmental MILCON budget request. In its review of the MILCON request, the HASC noted the problems that base commanders face in order to satisfy environmental compliance issues on military installations. The HASC's recommendations were discussed in section *B*.

b. The Senate Armed Services Committee

The SASC's recommendation for the environmental MILCON budget also received full funding for all the Services at the budget request.

c. The Authorization Conference Committee

The HASC and SASC recommended no change to the Service's budget request. Subsequently, the Authorization Conference Committee approved these projects without change to the budget request. [Ref. 236]

5. The Appropriations Committee Recommendation

The Appropriations Committees contemplated the pressing environmental compliance needs of the Services' military construction projects requests in their funding recommendations.

a. The House Military Construction Subcommittee

The House Military Construction Subcommittee strongly objected to the Administration's fiscal year 1995 MILCON budget request. The Subcommittee's displeasure revolved around the size of the Administration's MILCON budget request. The Subcommittee believed the request was too low and was $1.6 billion under the previous year's appropriation. This 45 percent reduction was thought to have caused a backlog in other areas of military construction.

> Of the $2.0 billion requested for Military Construction, $481.0 million or 25 percent is for environmental compliance and chemical weapons demilitarization. While the Committee supports environmental compliance and chemical weapons demilitarization programs, many readiness, revitalization and quality of life projects have been deferred. [Ref. 237]

b. The Senate Military Construction Subcommittee

The Army and Navy environmental MILCON projects were approved without change to the budget request. The Navy's MILCON construction request for compliance projects illustrates the SAC's concern in funding contradictions in the compliance account, discussed in section *B*. The SAC questioned the validity of the compliance budget request which included the MILCON environmental compliance projects. The SAC recommended full funding of the Air Force's MILCON requests.

c. The Military Construction Appropriations Conference Committee

Based on pressing needs to get the Services' military construction projects started to avoid potential fines, the Military Construction Appropriations Conference Committee recommended full financing at the budget request.

6. Base Realignment and Closure

The funding request for Base Closure Account Part I in support of the 1988 Commission's recommendation was 87.6 million, $398.7 million for the BRAC II in backing the 1991 Commission's recommendations, and $2,189.858 million for the BRAC III in support of the 1993 Commission's recommendation. These requests

include the Services' Base Realignment and Closure financing requirements for environmental projects. The environmental portion of BRAC I was $66.8 million, all earmarked for Army projects. The environmental request for BRAC II was $138.7 million. The BRAC II environmental restoration projects requests were $43.2 million for the Army and $95.5 million for the Navy. The environmental request for BRAC III totaled $302.7 million. The BRAC III service requests for environmental restoration projects were $11.3 million for the Army, $178.7 million for the Navy, $107.4 million for the Air Force, and $5.3 million for the Defense Agencies. [Ref. 238]

For the BRAC environmental projects outside the continental United States, the Services must comply with Executive Order 12114, which reflects the U.S. Government's policy on environmental actions overseas. The goal is to leave a good environmental footprint when overseas bases are closed. However, environmental cleanup plans overseas will not be executed solely for base turnover. The current overseas base practices include preventive environmental measures. Preventive measures include the monitoring and cleanup of toxic and hazardous wastes as a continual activity at these installations. [Ref. 239]

a. The Army BRAC

The Army's BRAC I mission was to close 77 installations, including 53 stand-alone housing sites. The BRAC I process has successfully closed over 69 sites. The Army also has completed all its environmental analysis of the remaining sites and will complete its BRAC I process by September 30, 1995, as required by law. [Ref. 240]

To date, the Army has invested roughly $458.218 million in support of environmental restoration or compliance projects. The Army anticipates expending over $734.3 million in environmental related programs in support of all three BRACs. [Ref. 241]

Currently, the Army's BRAC I environmental spending totaled $399.918 million from fiscal years 1989 through 1995; BRAC II environmental spending totaled $43.2 million from fiscal years 1992 through 1995; and BRAC III

environmental costs totaled $15.1 million from fiscal years 1993 through 1995. [Ref. 242]

b. The Navy BRAC

The Navy requested $95.5 million for the BRAC II and $178.7 million for BRAC III in the fiscal year 1995 budget. The total Navy expenditures on all BRAC environmental activities, to include the fiscal year 1995 budget request would be $1,430.6 million. The total spending breakdown for environmental restoration was $48.2 million, $546.3 million, and $836.1 million for the BRAC I, the BRAC II, and the BRAC III accounts. [Ref. 243]

c. The Air Force BRAC

The Air Force requested $107.4 million only for the BRAC III account. The Air Force concluded a net costs and savings analysis of the $2.6 billion it has received to close or realign 27 bases through all three of the BRAC programs. The study found that if they excluded the environmental cleanup costs over the 6-year period, the Air Force received a total savings of $5.5 billion, for a net savings during that period of $2.9 billion. The study also found that when the environmental restoration costs were included, the BRAC total cost would increase to $4.3 billion. However, the total cost savings remains around $5.5 billion but the net savings drops to $1.1 billion. [Ref. 244]

The Air Force will spend a total of $1,783.1 million on all three BRACs for environmental cleanup In fiscal year 1995. The total spending breakdown for environmental restoration was $353.8 million, $589.1 million, and $840.2 million for the BRAC I, the BRAC II, and the BRAC III accounts. [Ref. 245]

7. The Authorization Committee Recommendation

The Authorization Committee contemplated the potential cost savings in closing or realigning non-mission critical military installations when it considered the BRAC request.

a. The House Armed Services Committee

The HASC recommended no change to the Services' budget request for BRAC projects. The Committee noted that DoD's goal was to reduce domestic plant replacement value by 30 percent. The first three rounds of Base Closures

have produced a 15 percent reduction. Therefore, the remaining 15 percent must be achieved by the BRAC 1995 round. Furthermore, the HASC noted that DoD must reach this 30 percent reduction goal because of the long term savings it must achieve which it can devote to readiness and other national security requirements. [Ref. 246]

b. The Senate Armed Services Committee

The SASC also recommended no change to the Services' budget request for BRAC projects. The Committee specified that it would continue to carefully monitor the justification for both the construction projects funded within these accounts, and other cost elements of the accounts. [Ref. 247]

c. The Authorization Conference Committee

The HASC and SASC recommended no change to the budget request, nor did either specify the earmarking of environmental funding. In the Authorization Conference Committee the BRAC funding for all three accounts was approved without change to the budget request. [Ref. 248]

8. The Appropriations Committee Recommendation

The Appropriations process also considered the cost savings from closing military facilities in its recommendation for the budget request.

a. The House Military Construction Subcommittee

The SubCommittee recommended full funding of the budget request for all three BRACs without earmarking environmental funding. Also, the Subcommittee recognized that there are complexities in realigning and closing bases and providing for environmental restoration. Therefore, it allowed the Office of the Secretary of Defense to monitor program execution and provide flexibility to redistribute unobligated balances as appropriate to avoid delays and to effect timely execution of realignment and closures along with environmental restoration. [Ref. 249]

The House Subcommittee on Military Construction remained concerned with the Navy's continued refusal to provide proper funding for environmental cleanup at the Philadelphia Naval Shipyard. The Committee gave the Navy a suspense to submit a report by September 1, 1994 on the disposition of

its original request. [Ref. 250] Interestingly, both Authorization and Appropriations Conference Committees funded continuing construction projects for the Philadelphia Naval Ship Yard, even though the Navy did not request funding for these projects.

The additional dollars for these projects were appropriated as part of a general increase to the Navy's Construction budget.

b. The Senate Military Construction Subcommittee

The Senate also approved the full budget request for BRAC environmental projects. However, the subcommittee remained deeply concerned with DoD's continued underfunding for the environmental restoration of the Philadelphia Naval Ship Yard. The subcommittee cited the failure of DoD to respond with an explanation as to why this underfunding of environmental cleanup continues. In the Military Construction Bill for fiscal year 1995, "The Committee finds this lack of response to the direction of the statement of the managers on the fiscal year 1994 Military Construction Conference Report totally unacceptable and directs the Navy to provide the mandated report not later than September 30, 1994." [Ref. 251]

c. The Military Construction Appropriations Conference Committee

The Conference Committee recommended $518.0 million in the BRAC account. This was a $10.0 million increase to the budget request. The additional funding data for the BRAC account by Service was not available. [Ref. 252] However, the funding was most likely earmarked for the environmental restoration of the Philadelphia Naval Ship Yard cited in both the HAC's and SAC's Appropriations Reports. The Military Construction Conference Committee report concluded by directing the DoD to include justification for base realignment and closure in a single consolidated state list of military construction and family housing projects by Service for all rounds of base closures in the fiscal year 1996 budget submission.

G. SUMMARY

The DoD environmental budget request at $5,667.5 million for fiscal year 1995 was reduced considerably in the congressional budget process. The total environmental Appropriations for fiscal year 1995 were approximately $5,373.9 million. The delta between budget request and total Defense Appropriations for environmental security program for fiscal year 1995 was $293.6 million. Even with this reduction, however, this was a $95.3 million increase over the fiscal year 1994 Defense Appropriations bill, including the 1994 budget recessions.

Figure 15 portrays the DoD environmental security pillars as a percent of the total Department of Defense environmental budget for fiscal year 1995.

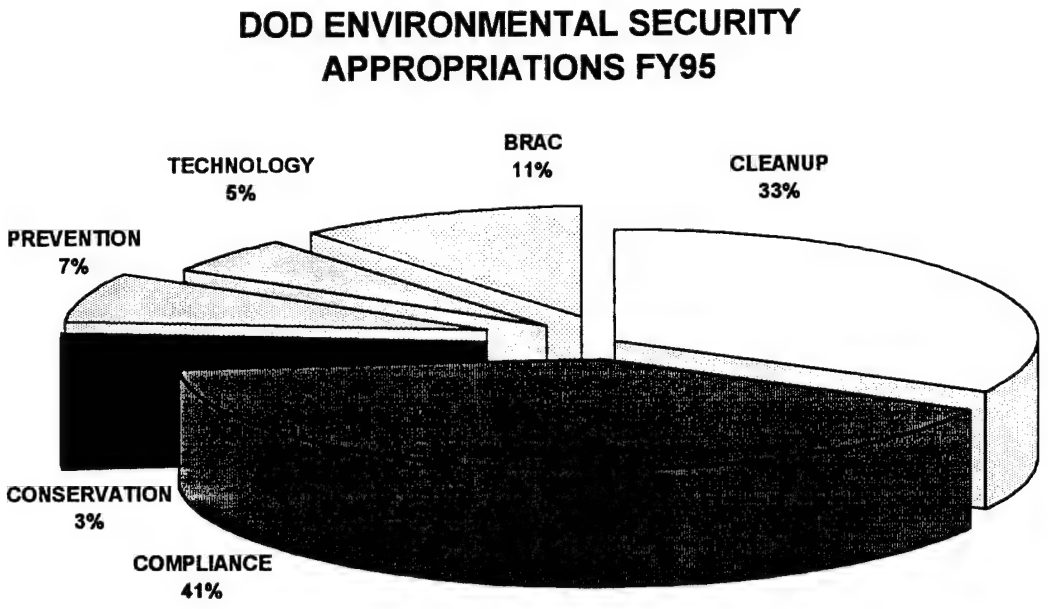

Figure 15. Source: Office of the Under Secretary of Defense For Environmental Security. "Environmental Program Spending Within the Defense Budget." Washington, D.C., September 1994.

The programs that continue to grow are the Conservation, Pollution Prevention, and the BRAC accounts. Surprisingly, the technology pillar was not funded at the request level. The problem is that these technologies require time and money to develop, as a result of which the SERDP has had difficulty obligating its appropriations in the allotted time. The summary below illustrates the budget request in millions of dollars, with the results of the Authorization, and

Appropriations recommendations for the fiscal year 1995 DoD environmental security budget. The Appropriations environmental technology RDT&E figure was derived by taking the DoD Environmental Security Office total less the SERDP Appropriations.

PILLAR	BUDGET REQUEST	AUTHORIZATION	APPROPRIATIONS
CLEANUP	*2,180.0*	*2,030.2*	*1,780.2*
COMPLIANCE	*2,182.3*	*2,182.3*	*2,082.3*
CONSERVATION	*106.1*	*106.1*	*146.1*
POLLUTION PREVENTION	*391.9*	*391.9*	*386.1*
ENVIRONMENTAL TECHNOLOGY	*298.8*	*308.9*	*290.9*
- RDT&E	*160.2*	*196.7*	*229.0*
- SERDP	*111.9*	*111.9*	*61.9*
BRAC	*508.2*	*508.2*	*518.2*
TOTAL ENVIRONMENTAL SPENDING	5,668.0	5,527.6	5,203.8

The next chapter will review two congressional provisions concerning the "greening" of the acquisition process and what DoD has done to consider environmental issues in the acquisition process.

V. CONGRESS, THE ENVIRONMENT, AND IMPLICATIONS FOR ACQUISITION

This chapter will explore the two questions posed in Chapter I. First, what are the environmental implications for the acquisition of future weapon systems? Second, what has DoD done in tailoring its acquisition policies to consider environmental consequences in the life-cycle of weapon systems? The answers to these questions are found in the Defense Authorization Act for fiscal year 1995, Administration Executive Orders, and DoD initiatives. The increased awareness of the unique balance between the environment and the Department of Defense has resulted in new methods of preventing environmental problems in the future.

A. CONGRESSIONAL ENVIRONMENTAL ACQUISITION PROVISIONS

The defense environmental budget has grown substantially since fiscal year 1984. On an average, the spending for environmental cleanup has increased 23 percent each year, while the budgets for military weapons have decreased by about 7 percent each year. [Ref. 253] Past DoD environmental budgets focused on correcting former environmental problems, not on proactive measures for curtailing or preventing pollution. The renewed emphasis on aggressive environmental management for the DoD resulted from positive leadership, congressional oversight, and realization that environmental problems will not go away. The Defense environmental budget represents a relatively small portion of the total Defense budget, roughly 2 percent from fiscal years 1994 through 1995. However, environmental spending has continued to grow while the overall defense budget has decreased. In the past three years, compliance, pollution prevention, and conservation programs have also increased in importance. The growth of these programs has been fueled by congressional mandates and oversight of DoD environmental activities.

The Department of Defense Inspector General (DoDIG) Audit Report No. 94-020A was the harbinger for renewed congressional interest in the Environmental Consequences Analysis of Military Acquisition Programs. In December 1993, the DoDIG issued an Audit Report addressing the effectiveness of DoD environmental

life-cycle costing in major defense acquisition programs. "The report culminated with an audit that evaluated nine major acquisition programs - two Army, five Navy, and two Air Force - and covered the period June 1992 to April 1993. There were three major findings which emerged from this audit:

- Environmental oversight was not fully effective.
- There was a failure to assess programmatic environmental trade-offs when conducting Cost and Operational Effectiveness Analyses.
- An accurate estimate for environmental clean-up and remediation liabilities at Defense contractors had not been fully developed." [Ref. 254]

The DoDIG report spurred action in the DoD environmental and acquisition communities. The report emphasized that environmental concerns and issues need to be fully integrated into the acquisition decision making process. In response to this report, acquisition planners have been working to clarify the procedures involved, better define the requirements concerned, and develop responsive courses of action. [Ref. 255] As a result, the fiscal year 1995 Defense budget contains two environmental provisions which impact on how DoD estimates environmental considerations in future acquisitions.

1. Environmental Consequences Analysis of Major Defense Acquisition Programs

The Environmental Consequences Analysis of Major Defense Acquisition Programs Act, proposed by the HASC, was a major outcome of the fiscal year 1995 Defense Authorization Bill. Major Defense Acquisition programs are defined as Acquisition Category (ACT) I. ACT I programs are acquisition programs that meet specific requirements of $300.0 million in RDT&E and/or $1.8 billion in procurement funding. The decision authority for ACT I programs is the Secretary of Defense or his designate. At every Milestone the Defense Acquisition Board (DAB) reviews the programs' progress prior to movement up the acquisition matrix.

Congress stipulated that before April 1, 1995, the Secretary of Defense (SECDEF) shall issue guidance to apply uniformly throughout DoD. The first

requirement was achieving the purpose and intent of the National Environmental Policy Act (NEPA) established in 1969, for major defense acquisition programs. Specifically, there were three areas on which the SECDEF must concentrate DoD's efforts regarding the NEPA: (1) To initiate compliance efforts prior to acquisition development. (2) Appropriate environmental impact analysis be completed in support of each milestone decision. (3) Proper accounting for all direct, indirect, and cumulative environmental effects before proceeding toward system production. [Ref. 256]

The second major area for consideration regarded analyzing the life-cycle environmental costs for such Major Defense Acquisition Programs. "The areas of consideration include the materials to be used, the mode of operations and maintenance, requirements for demilitarization, and methods of disposal, after consideration of all pollution prevention opportunities and in the light of all environmental mitigation measures to which the department expressly commits." [Ref. 257]

Finally, the SECDEF was directed to establish and maintain a data base for documents prepared by DoD in complying with the NEPA. "These records relating to major defense acquisition programs shall be maintained in the data base for 5 years after commencement of low-rate initial production of the program." [Ref. 258]

Acquisition professionals now need to become more environmentally aware of all the business aspects of the acquisition system. They must weigh the environmental costs associated not only of the materials and components being assembled, but also what environmental consequences the disposal of those materials will have on future weapon system procurement. Managers must evaluate not only the environmental consequences of their decisions, but those of their predecessors at each Milestone decision of the systems life-cycle .

This congressional environmental initiative places greater accountability on Program Managers to insure that the program they manage conforms to the Environmental Consequences Analysis of Major Defense Acquisition Programs Act. The Act will also create a large data base of environmental costs that can be

directly linked to the procurement program. The law will also reveal the true cost of weapon system. In an age of shrinking Defense budgets, the Environmental Consequences Analysis of Major Defense Acquisition Programs will result in significant, if not challenging, problems in collecting and validating life-cycle environmental costs. Furthermore, Government contractors will also be directly accountable for the environmental costs associated with materials used in the development and production of the weapon systems program and face significant challenges accounting for the direct and indirect environmental costs associated with developing weapon systems.

2. Environmental Education and Training Programs

Environmental decisions have implications not only in the acquisition process, but in all facets of DoD activities. The House Armed Services Committee Authorization Act contained provisions directing the Secretary of Defense to establish and conduct environmental education and training programs for members of the military services and civilian employees of DoD. The Senate Armed Services Committee Authorization Bill contained no similar provisions. The SASC preferred that the SECDEF identify military facilities with existing environmental training and expertise, or the ability to develop such expertise, and encourage this type of training. [Ref. 259]

The Authorization Conference Committee directed the SECDEF to establish and conduct an education and training program for members of DoD. The SECDEF was required to conduct these programs to ensure that all members of DoD were skilled and knowledgeable in existing environmental laws and regulation. [Ref. 260] The foundation for this education process currently exists for the acquisition profession at military schools like the Naval Postgraduate School, the Army's Material Acquisition Management Course and the Air Force Institute of Technology, as well as other educational institutions.

B. ENVIRONMENTAL LAWS, EXECUTIVE ORDERS AND ACQUISITION

There are numerous laws affecting the acquisition process. Many of these environmental laws and regulations were discussed in Chapter II. Environmental regulations fall into two categories, either procedural or substantive. Procedural

laws, like the NEPA, establish a process for compliance. Penalties for noncompliance of procedural regulations result in program delays. Substantive laws set thresholds for pollution discharges. The Resource Conservation and Recovery Act, Clean Air Act, and Clean Water Act are examples of substantive laws. Failure to adhere to these laws can result in fines, prison sentences, and interrupted or stopped work for acquisition projects. [Ref. 261]

To avoid delays, unfavorable public relations, and to avert criminal liability, several environmentally related events and initiatives are being implemented for the acquisition process. The first concerns the overall effort to review and reform the DoD acquisition process. The other events are the environmental implications of Executive Order 12856, Executive Order 12873, and other initiatives that will directly assist DoD in complying with the Environmental Consequences Analysis of Major Defense Acquisition Program guidance.

1. Section 800 Report.

A DoD advisory panel on streamlining and codifying Acquisition laws (Section 800 Report) convened to determine if the number of statutes on environmental protection represented an unusual burden upon DoD or its contractors. They determined that some laws, such as the Marine Mammal Protection Act (10 U.S.C. Section 7528), were primarily intended to correct specific defense policies. The advisory panel narrowed its research to three statues for in-depth review. These statutes were the Clean Water Act (33 U.S.C. Subsection 1368), the Clean Air Act (42 U.S.C. Subsection 7606), and the Resources Recovery and Conservation Act (RCRA, 42 U.S.C. Subsection 6962).

> The panel believes that all three laws clearly affect Government procurement, either by requiring contracts to contain implementing clauses or, in the case of RCRA, by directing agencies to establish "affirmative procurement programs." However, none of these laws contain provisions which appear to be unreasonable or to have an unusual impact upon defense-related firms. [Ref. 262]

2. Executive Order 12856.

Executive Order 12856 was signed by President Clinton on August 3, 1993. It is a consolidation of the Federal Compliance with Right-to-know Laws and Pollution Prevention requirements. The primary purpose of these two laws was to insure reporting of the release of toxic chemicals into the environment. However, the goals of Executive Order 12856 are broader than just notification of the release of toxic chemicals into the environment. It requires all Federal agencies to establish toxic pollutant reduction goals in two critical areas: *Toxic Chemical Reduction* and *Acquisition and Procurement.*

Specifically, the provisions in Subsection 3-303 *Acquisition and Procurement* goals establish six tasks for the Department of Defense to accomplish:

- Establish a plan and goals for eliminating or reducing the unnecessary acquisition of products containing extremely hazardous substances or toxic chemicals.
- Establish a plan and goals for reducing its own manufacturing, processing and use of extremely hazardous substances and toxic chemicals.
- Review standardized document, including specifications and standards, to identify opportunities to eliminate or reduce the use of extremely hazardous substances and toxic chemicals.
- Make all appropriate revisions to the specifications and standards.
- Make revisions to the Federal Acquisition Regulation necessary to implement Executive Order 12856.
- Develop and test innovative pollution prevention technologies." [Ref. 263]

The Acquisition community needs to change its former procurement strategies to achieve reductions in the acquisition of toxic substances. These changes will affect the way the DoD procures, uses, and manufactures weapon systems. It will also affect the systems maintenance plans, the comprehensive logistic strategies to support the system, and other processes in DoD facilities.

Reducing these pollutants will have a significant impact on the acquisition process. It will affect the way Dod procures future weapon systems by reducing the use of toxins and pollutants at the source, not by recycling, remediation, or disposal. [Ref. 264] This Executive Order is critical in complying with the fiscal year 1995 guidance on analysis of life-cycle environmental costing for major weapon systems programs.

Executive Order 12856 must be complied with by 1995. Revisions to Specifications and Standards documents must be made by 1999. Federal agencies are also required to develop a written strategy to eliminate or minimize acquisition of hazardous or toxic chemicals and to develop a strategy to meet a goal of 50 percent reduction by 1999. DoD intends to exceed the 50 percent reduction of pollution which was started in baseline year 1994. The DoD goal is to operate at the lowest possible level of pollution consistent with the security and defense of the nation. The DoD expects to fully implement the Executive Order and, by the end of fiscal year 1995, complete pollution prevention plans for each of its domestic installations. [Ref. 265]

3. Executive Order 12873.

Executive Order 12873 integrated the Federal Acquisition, Recycling, and Waste Prevention Programs and required, among other things, the development and implementation of affirmative procurement programs for certain items including recycled paper, re-refined lubricating oil, and other products made with recycled materials. DoD established a task force comprised of senior members of the acquisition, procurement and environmental communities to evaluate how this Order will be implemented through the broad range of the Department's activities. [Ref. 266]

C. DOD ENVIRONMENTAL ACHIEVEMENTS

A "greener" acquisition philosophy began after issuance of DoDIG Report 93-INS-06, *Hazardous Waste Minimization*. According to the December 1992 report, "eighty percent of the Department's hazardous waste generation is the direct result of weapon system production, maintenance, and demilitarization of disposal." [Ref. 267] Therefore, the Secretary of Defense created the Deputy Under Secretary of

Defense for Environmental Security (DUSD (ES)) who reports directly to the Under Secretary of Defense for Acquisition and Technology (USD (A&T)).

The DoDIG Audits, coupled with other DoD internal environmental reviews of the acquisition process, have revealed deficiencies in the system as well as positive initiatives to remedy these shortfalls.

1. Environmental Content of Life-cycle Cost Estimates

The Office of the Secretary of Defense circulated a working paper concerning the environmental costs in acquisition programs on September 7, 1993. The working paper, prepared for the Cost Analysis Improvement Group (CAIG), reviewed current environmental costs in life-cycle cost estimates. The CAIG report cited passages from 11 Department of Defense documents which referenced environmental requirements in acquisition. These documents discussed a single facet of environmental life-cycle costing or other environmental considerations in the procurement process. The report found extensive requirements already exist in these acquisition directives for documenting environmental impacts and recognizing their associated costs. However, the report stated that this "topic was treated piecemeal, one document at a time; the result is something more like a patchwork quilt than a finely woven tapestry." [Ref. 268]

2. Curtailment of Military Specifications and Standards

The Secretary of Defense issued a memorandum to all DoD agency heads in June 1994, entitled *Specification and Standards - A New Way of Doing Business.* The memorandum was issued in response to Executive Order 12856. It centered on rethinking the unnecessary reliance on military specifications (MILSPECS) and standards when commercial industrial specifications were satisfactory. The report specified that performance specifications would be used for purchasing new systems, major modifications, upgrades to current systems, and non-developmental and commercial items. If the system required military specifications for military unique applications, the SECDEF's Memorandum specified that:

> Program Managers shall use management and manufacturing specifications and standards for guidance only. The Under Secretary of Defense

> (Acquisition and Technology) shall develop a plan for canceling these specifications and standards, inactivating them from designs, transferring the specifications and standards to non-government standards, converting them to performance specifications, or justifying their retention as military specification standards. [Ref. 269]

Furthermore, the SECDEF cited the need for cultural changes to challenge acquisition requirements, enhanced pollution controls, and education and training programs in the memorandum. "The secretaries of the Military Departments and the Directors of the Defense Agencies shall establish and execute an aggressive program to identify and eliminate toxic pollutants procured or generated through the use of specifications and standards." [Ref. 270]

3. National Aerospace Standard 411

In March 1994, DoD adopted the National Aerospace Standard (NAS) 411 Hazardous Materials Management Program as a department-wide policy. The NAS-411 was created by the Aerospace Industries Association as an industry standard to be applied to the acquisition of Government weapon systems. The standard represents a comprehensive attempt to curtail the production of hazardous materials in the manufacturing process. NAS-411 provides a flexible, systematic process for managing hazardous materials in the acquisition and life cycle of a system and will help reduce hazardous materials usage and the generation of pollutants, not only during the manufacturing, but during the operations and maintenance of the system over its approximately 30-year life. The standard emphasizes eliminating or reducing hazardous materials early in the design process and in the entire systems production. If the use of hazardous materials is necessary or unavoidable in the acquisition process the standard assists in specifying the proper control measures for these substances. [Ref. 271]

Commercial industry has been a pro-active partner with DoD in working on ways to comply with the challenges of environmental regulations. NAS-411 provides a uniform method for the Government contractor to identify all hazardous

materials and to manage, minimize, and eliminate them wherever possible. A critical element of NAS-411 is the contractor progress reports addressing:

- Lists of hazardous materials the contractor must use because of military specifications and standards;
- Lists of hazardous materials the contractor must use because no alternative technology exists to meet performance requirements; and
- Trade-off analyses to determine alternatives which will decrease environmental liabilities and decrease costs. [Ref. 272]

The DoD is now working closely with the Services and industry to implement NAS-411 into the acquisition process.

4. National Defense Center for Environmental Excellence

In 1994, DoD tested and demonstrated at least seven new pollution prevention technologies at the National Defense Center for Environmental Excellence (NDCEE) in Johnston, Pennsylvania. [Ref. 273] DoD is using NDCEE to review all standardized documents that require the use toxic chemicals and hazardous substances and to establish an environmental data base. Established by Congress in 1990, the NDCEE mission is focused on identifying and implementing environmentally acceptable solutions for virtually the entire array of industrial operations associated with acquisition. The NDCEE tests and develops pollution prevention technologies for use at industrial facilities. The Services provided by the NCDEE include Baseline Surveys, Technical Demonstration, Technology, and Information Services. The Center is currently working on ozone-depleting chemicals, volatile organic compound emissions and reductions in heavy metal discharges, all top priority concerns for DoD acquisition program managers. [Ref. 274]

5. Service Specific Environmental Acquisition Achievements

The acquisition reform process has spurred the Services to consider the potential effects of environmental aspects of the procurement of complex and costly weapon systems. To that end, the Services now operate established centers

to assist in environmental matters. The Service centers include the Air Force Center for Environmental Excellence, the Army's Acquisition Pollution Prevention Support Office, the Production Base Modernization Activity and the elements of the Naval Environmental Protection Support Service. [Ref. 275] These environmental offices have been instrumental in providing assistance in defining methods to foster solutions for PMs to better understand and incorporate environmental planning into their acquisition programs.

a. Air Force Environmental Achievements

In 1989, the Air Force established the Acquisition Management of Hazardous Materials (AMHM) program. The AMHM was created in response to the economic and environmental costs associated with the use of hazardous materials and hazardous waste generation throughout the weapon system life cycle. The goal of this program was to institutionalize and establish procedures to identify, track, store, handle, and dispose of these hazardous substances in the weapon systems acquisition process. [Ref. 276]

On December 23, 1993, the Secretary of the Air Force published an Acquisition Policy Letter on Pollution Prevention in Acquisition. This Policy Letter charged the acquisition community to consider environmental issues during the life-cycle of a weapons system. Specifically Air Force Program managers would: develop a Pollution Prevention plan; track reduction of ODCs and EPA-17 hazardous materials; track technical order revisions, consider life-cycle cost of material selection; and fund Pollution Prevention from within a program. [Ref. 277] Since publication of the Policy Letter, the Air Force has established a separate program element to support pollution prevention in the budget process.

The Air Force Material Command established an aggressive program to screen 158,000 technical orders for possible elimination of language requiring the use of ODCs and EPA 17 toxic chemicals. As a result, the F-22 program eliminated all but one use of Class I Ozone Depleting Chemicals (ODCs) from production, operation and maintenance procedures. Furthermore, the Air Force adopted the Hazardous Materials Pharmacy concept to control hazardous material from "cradle to grave." This program resulted in reducing excess and expired shop

stocks, exposure of personnel to hazardous materials, and the ability to preempt potential costly environmental non-compliance violations. [Ref. 278]

The aggressive efforts by the Air Force pollution prevention program have received numerous accolades and awards for their accomplishments. The Air Force received the 1993 Secretary of Defense Team Pollution Prevention Award for Hill Air Force Base's (AFB) comprehensive Hazardous Materials Management System. This program orders, tracks, controls, and reports purchases and usage of hazardous materials. Tinker AFB also received the 1993 Secretary of Defense Installation Pollution Prevention Award for implementing process changes and material substitutions to reduce the use EPA 17 toxic chemicals by 25 percent. [Ref. 279] The Air Force also received three 1993 EPA Stratospheric Ozone Protection Awards in recognition of exceptional leadership, personal dedication, and technical achievements in eliminating ozone depleting substances. Currently, the Air Force's Logistic Operations generates 90-percent of the Air Force's hazardous waste. The Air Force Systems Command and the Air Force Logistic Command merged with the Air Force's Material Command to facilitate a continual feedback mechanism between logisticians and weapon designers. [Ref. 280] The Air Force also established seven product area committees (e.g., airframe, engine, avionics) to partner with industry, sister Services, and other weapon systems Program Managers to solve common environmental problems.

b. Army Environmental Achievements

The Army formally established its Pollution Prevention Program in November 1992, with the publication of *US Army Environmental Strategy into the 21st Century*. This strategy established pollution prevention as one of the four pillars of the Army Environmental Program. Top level management initiatives for Pollution Prevention included: the development of Army-wide pollution prevention guidance; periodic pollution prevention proponents meetings; a pollution prevention award program with monetary incentives; and an Army-wide mechanism for tracking pollution prevention expenditures. Additionally, the Army has focused its efforts to seek-out and substitute less environmentally damaging

materials in the weapons manufacturing process, reduce pollution from energy sources, and recycle more of the material it uses. [Ref. 281]

This commitment to meeting the environmental challenge can be found in the Army's *Life-Cycle Environmental Guide for Weapon Systems Project Managers*. Figure 16 illustrates the highlights of the DoD 5000 series requirements concerning life-cycle environmental costing for PMs at every milestone decision of a weapon systems program. There are two recommended overall environmental strategies for PMs to consider:

- Establish an Environmental Management Team (EMT).
- Use the NEPA process to identify issues. Implement pollution prevention measures to reduce environmental concerns. Manage remaining issues (engineering controls, permits, R&D, worker health and safety, etc).

The guide also presents the PM with general guidance tips to manage a successful weapon systems program that considers environmental aspects in the life-cycle planning:

- Include environmental controls in all contracts and specifications.
- Include environmental issues in support plans, such as the Operational Requirements Document (ORD), Integrated Logistic Plans (ILS), and Test Evaluation Master Plan (TEMP).
- Insure that the EMT remains current on changing environmental regulations, technologies, and regulatory issues at specific sites.

The Army has implemented several programs to replace chlorinated cleaning solvents used in maintenance processes with high-pressure water blast. Facilities that installed the system achieved cost avoidance savings of approximately $656,000 annually. For example, the Staff at Red River Army Depot, Texas, found they could eliminate the depot's chromate conversion coating process by relying on abrasive blasting to pre-treat aluminum surfaces prior to painting. Quality assurance/quality control studies indicated no difference for test panels pre-

treated with and without the chromate conversion coating process. Depot staff estimated that eliminating the need for chromate conversion coating would save the depot approximately $195,000 per year. Savings were based on the assumption the depot would not have to purchase, handle and treat the chromate coating material. If the depot had not switched to abrasive blasting, the depot would have had to install scrubbers and other emission control equipment to meet the requirements of the 1990 Clean Air Act Amendments, at a cost of $4 million. [Ref. 282]

Ammunition procurement has always been of concern to the Army, especially issues concerning the hazardous waste and chemicals needed in the manufacturing process. The Holston Army Ammunition Plant in Tennessee, converted from a sodium nitrate process used in ammunition production to an ammonium nitrate process. This change converted a regulated waste stream to a by-product stream that is being successfully marketed. The forward thinking management initiative at the Holston Plant eliminated a major hazardous waste disposal problem. [Ref. 283]

The Iowa Army Ammunition Plant is also using an innovative process to regenerate carbon contaminated by explosive materials off-site and return it to the plant for re-use rather than incinerating the contaminated carbon. The program substantially reduces the amount of new carbon purchased. This program eliminated both the need to treat approximately 10,000 pounds of carbon each year in the explosive waste incinerator and the need to dispose of 40 to 60 drums of contaminated carbon per year as hazardous waste. [Ref. 284]

The unique nature of the Army ammunition storage and procurement program remains the subject of congressional oversight concerning the environmental impact of these munitions. The Report of the Committee on Armed Services, House of Representatives for the National Defense Authorization Act for fiscal year 1995, made special mention of the disposition of depleted uranium ammunition. The HASC was concerned with who would bear responsibility for the cleanup of the site owned and operated by the contractor who produced the depleted uranium tank ammunition once the Army terminated the contract. [Ref. 285]

The Army continues its commitment to improve its involvement in acquisition environmental life-cycle programs by working with outside agencies. The Army is working in conjunction with NDCEE on eliminating halogenated metal parts cleaning solvents that contain Chloroflouorcarbons (CFCs) and the toxic chemical 1-1-1 trichloroethane. The Army uses halogenated metal parts solvents extensively throughout its weapon systems maintenance programs. Preliminary test results from the aqueous cleaners as a replacement for halogenated solvents have been encouraging. The Army pollution prevention success can also be found after a weapon system has been fielded. Innovative techniques coupled with new technology ideas can reduce environmental operations and support life-cycle costs. At Fort Carson, Colorado, the use of the jetwashers eliminated a toxic chemical waste stream by nearly 30,000 pounds per year. The new process not only eliminated a waste stream, it reduced harmful air emissions and reduced cross-contamination at a heavy equipment maintenance facility for armored units by installing the jetwashers for parts cleaning. [Ref. 286]

The Letterkenney Army Depot, Pennsylvania, initiated an aggressive environmental program to reduce hazardous waste in the manufacturing/restoration process of weapon systems and comply with new environmental regulations. The program was designed to eliminate wash primers the Army uses to prepare steel substrates for epoxy primer. Studies indicated that abrasive blasting could be used as an alternative for the wash primers. The current practice contained chromate bearing hazardous air pollutants and released high amounts of volatile organic compounds. Letterkenney staff estimated that if the depot continued to use the wash primers, the depot would have to purchase a $3.4 million paint booth to comply with State's environmental regulations. [Ref. 287]

Pollution prevention and reduction of weapon system operational and support environmental life-cycle costs are not limited to the active Army. The National Guard Bureau purchased plastic media blasting equipment to replace its chemical paint strippers used on aircraft and military vehicles. The estimated annual savings in reduced chemical solvent disposal costs are $370.000. Furthermore, the Maryland Army National Guard's Combined Support Maintenance

Shop reduced the volume of hazardous waste generated by 22,000 pounds. These savings were realized through the purchase of oil and fuel filter crushing machines, an antifreeze recycling machine, and a refrigerant recovery and recycling machine. The Combined Support Maintenance Shop saved $70,000 per year in labor and reduced disposal fees. [Ref. 288]

EVENT	DOD 5000 SERIES REQUIREMENTS	RECOMMENDED ACTIONS
Milestone 0 Concept Studies approval	1. "none". 2. Ensure funding is available for environmental Program requirements.	1. Ensure selection process for alternative studies includes environmental factors. 2. Identify magnitude of each concepts environmental issues.
Phase 0 Concept Exploration and Definition	1. Identify environmental consequences per NEPA. 2. Integrate environmental factors into strategy, cost, schedule, and performance.	1. Identify pollution prevention opportunities and solutions/mitigating measures to issues raised in the NEPA analysis. 2. Begin to contact all members of the user community, including regulators. 3. Manage hardware activities that use hazardous materials, generate wastes, ect.
Milestone I Concept Demonstration Approval	1. Identify environmental consequences and mitigating measures. 2. Estimate environmental costs. 3. submit environmental annex of Integrated program summary (also at future milestones).	1. Include environmental issues in support plans such as ILS, TEMP, ORD, ect.
Phase I Demonstration and Validation	1. Begin formal NEPA adherence. 2. Refine cost and schedule projections. 3. Identify impacts of emerging technologies. Assess defense industrial base capability.	1. Continue iterative environmental management process (pollution prevention, ect.) 2. Initiate R&D activities for environmental issues. 3. Collect environmental data (using instruments or labs analyses) during demonstration activities.
Milestone II Development Approval	1. Submit NEPA document. 2. Refine cost and schedule projections. 3. Provide reasonable assurance that environmental control processes and technologies will function as required.	1. Analysis of environmental impacts and mitigation measures should be as through as possible.
Phase II Engineering and Manufacturing Development	1. Continue iterative NEPA analysis. 2. Need for stable design and low-rate production experience. require actions be taken.	1. Formalize pollution prevention in design and production process. 2. Design pollution control equipment. 3. Incorporate environmental concerns in selection of contractors and manufacturing sites. 4. Begin/continue permit acquisition activities. 5. Manage test and evaluation activities (wastes, impacts, ect.) 6. Resolve worker health and safety issues. 7. Develop environmental data management system.
Milestone III Production Approval	1. Submit tier NEPA analysis. 2. Refine cost estimates. 3. Submit draft demil DMWR.	1. All environmental requirements should now be thoroughly understood with work in progresson permitting, engineering controls, ect. so the project is not delayed.
Phase III Production and Deployment	1. "None". 2. Identify operational and/or support problems. 3. Validated demil DMWR required at material release.	1. Resolve issues elevated to the PM by production/fielding managers. This requires continued staffing of the EMT. 2. Conduct compliance, HAZMIN, and other audits at all facilities involved with project. 3. Continue to consult with end users including TRADOC.
Milestone IV Major Modification Approval - As Required	1. Conduct NEPA analysis. 2. Verify Successful implications. 3. Refine costs.	1. EMT should evaluate modification with regard to environmental impact, pollution prevention and compliance
Phase IV Operations and Support	1. "None". 2. Correct shortcomings and deficiencies.	1. Continue major activities discussed under Phase III. 2. Update DMWRs to include new environmental developments. 3. Renew permits as required. Review medical monitoring results, pollution control equipment performance, ect. 4. Keep EMT informed of the day-to-day developments. 5. Maintain plans for system closeout (demil, site/building closures, ect.)

Source: U.S. Army Production Base Modernization Activity, Environmental Systems Division. Life Cycle Environmental Guide for Weapon Systems Project Managers, Picatinny Arsenal, NJ., Revision 1.0, October 1992.

c. Navy Environmental Achievements

The Navy has implemented a pollution prevention program in fielded systems and operations through an aggressive Maintenance Process Improvement Program. The focus of this program is on reducing hazardous materials used in existing operations and processes.

There are several challenges facing the Navy in the conversion from several hazardous and environmentally unsafe substances. The Navy relies on radiators with chlorofluorocarbons (CFCs) to cool shipboard radars. Current substitutes for CFCs are often less efficient and require more space, which is always at premium in any weapon system. [Ref. 289]

In 1993, the Department of the Navy received an Environmental Protection Agency (EPA) Stratospheric Ozone Protection Award for a Proactive Ozone Depleting Substance Elimination Strategy. Prior to that, in 1992, the Navy was also awarded an EPA Stratospheric Ozone Protection Award for international technology transfer efforts. This recognition by the EPA was for a successful joint initiative under the Montreal Protocol. The Navy and Marine Corps personnel worked in conjunction with the United Nations (UN) and the EPA to provide technology transfer and training on Halon recycling to developing countries. The Navy and Marine Corps developed a Halon 1211 recycling machine, now operational at 400 DoD facilities and on ships worldwide. This machine achieves a 99-percent Halon recovery rate. The EPA and the UN have purchased 150 recycling machines for developing countries to reduce global emissions of Halon 1211. [Ref. 290]

The Navy recycling program has been very effective in controlling this substance while alternatives are developed for future weapon systems and eventual overhauls of existing systems using Halon. Halon is a difficult substance to replace and is utilized by all the services because of its unique capability to extinguish electrical fires. Unfortunately, current efforts to develop alternative substitutes to halon have proven more hazardous. [Ref. 291]

The Navy has also developed a pollution prevention program to control and reuse hazardous materials. The Consolidated Hazardous Material

Reutilization and Inventory Management Program (CHRIMP) provides life-cycle control and management by centralizing control over all hazardous materials in order to reduce the amount of material procured and hazardous waste generated in a system. The CHRIMP program has been extremely successful demonstrating cost avoidance and environmental life-cycle savings. During fiscal year 1993, ten Navy shore activities employed CHRIMP to reduce hazardous materials purchases and hazardous waste generation. The total savings to these facilities was over $7.15 million in cost avoidance. [Ref. 292]

In 1994, the Navy implemented CHRIMP on all major warships in its Pacific and Atlantic Fleets. This effort was supported through the Naval Supply Systems Command and at the Navy's ten Fleet and Industrial Supply Centers. The test program reduced purchase and waste generation and achieved a total cost avoidance savings of over $688,000. [Ref. 293]

In fiscal year 1995, the Navy will evaluate pollution prevention technologies identified under its Environmental Leadership Program. The Navy will then develop and distribute analyses identifying costs, performance, installation and training requirements, and other key data to transfer these environmental technologies. [Ref. 294]

6. Future Environmental Life-Cycle Challenges

Despite the success stories, distrust between members of Congress, industry, and the acquisition community is still evident when additional funding for pollution prevention projects for some weapon systems is requested.

The House Subcommittee on Defense Appropriations found that $140.0 million was requested in the Air Force's C-17 budget for hazardous waste disposal. The request was earmarked to eliminate hazardous materials from the production and operation of the C-17. Skepticism surrounded the request since this aircraft had a track record of being over budget and behind schedule. Congress believed this was a ploy to obtain additional funding for this program and the request was denied by the Defense Appropriations Conference Committee for fiscal year 1995. [Ref. 295]

The B2 program, produced by Northrop, highlights not only a pollution prevention success story, but simultaneously illustrates the reluctance to adopt such practices in the civilian sector. Northrop's design engineers found it was more cost effective to issue particular bonding elements dispensed in half-ounce tubes rather than larger one gallon containers. Workers needed only a little for their work and the unused portion went to waste. Disposing of the unused substance was expensive. Before the change to the smaller containers could be made, the design engineers had to convince the purchasing department that buying in bulk was not cost effective when disposal costs were included. In addition, the design engineers discovered that using more expensive electronic photography rather than traditional photography saved money by greatly reducing the costs associated with disposal of photographic chemicals. These changes in business practices cannot be readily identified as a separate cost of production. Pollution prevention includes the entire production costs including the environmental costs which must be factored into the business plan. Pollution prevention encourages not only forward thinking engineering practices but smart business sense.

Chapter VI will review congressional oversight of DoD environmental funding.

VI. CONCLUSIONS AND IMPLICATIONS

This chapter fuses the information presented in the previous chapters, beginning with a review of the primary research question and subsidiary questions to provide general answers. The chapter then suggests future trends in the environmental security budget under the Republican controlled Congress. Finally, it suggests additional areas for study.

A. THE ENVIRONMENTAL DEFENSE BUDGET AND CONGRESSIONAL OVERSIGHT.

This section reviews the primary and subsidiary thesis questions posed in Chapter I and provides a summary of the answers.

1. Primary Research Question

The primary research question was: What is the impact, within the congressional budget process, of the $5.7 billion environmental defense proposal submitted by the Clinton administration for FY 1995?

The data showed that the DoD environmental security budget did not receive the full funding requested by the Clinton Administration. The budget for fiscal year 1995 was considerably less, at $5.2 billion. There were several reasons for the decline. The first reason was the overall downsizing in defense spending. The second reason was that Congress appeared to be frustrated that environmental spending had increased with no apparent end in sight. Finally, it appeared that policy makers in DoD and Congress shifted emphasis from a reactive to a proactive environmental posture. This shift in philosophy is illustrated by the decrease in environmental restoration funding and the shifting of funding to the other pillars.

2. Subsidiary Research Questions

There were seven subsidiary research questions that were posed in Chapter I. Each of these questions will be addressed in this section.

a. Environmental Security Priorities

Question one: What were the environmental security priorities represented by the Clinton Administration's fiscal year 1995 request for $5.7 billion for defense environmental programs.

The major goal of the cleanup pillar was to continue the cleanup process. Over 60 percent of the budget request was devoted to actual cleanup and the remaining funds allocated to study of potential cleanup sites. However, the funding request of $2,180.2 million was reduced in the budget process to $1,780.2 million. The Appropriations Conference Committee indicated that it was tired of the increased funding requests for the DERA and wanted to see more actual cleanup of installations. The DoD generic installation cleanup blueprint goal could assist in streamlining the environmental restoration efforts.

Another goal was to implement the "Fast Track" Cleanup Program at bases slated for closure. This program received favorable comment by Congress, and the BRAC portion of the budget was increased by $10.0 million to expedite this process. The "Fast-Track" proposal will likely face opposition by environmental groups worried that too much pollution and waste will remain if the remediation effort is tailored only to the proposed site. Establishing a comprehensive cleanup analysis program would help husband the cleanup dollars and get the highest return at cleanup sites.

The compliance pillar goals were mandated by environmental legislation. An example of DoD's proactive initiative is represented by the 12 month self-audit conducted at major military installations to identify compliance deficiencies and methods to remedy those shortcomings. The reduction of open enforcement actions by 15 percent from 1993 levels was also indicative of the new proactive philosophy concerning environmental issues. This philosophy can also be seen in the MILCON requests to bring military installations up to compliance standards. The change in DoD's attitude to environmental issues makes good business sense. Instead of skirting the problem, DoD has tackled the environmental challenge and is learning to operate within the confines of environmental legislation.

The conservation pillar represents a renewed interest in congressional oversight. The Congress increased the Legacy account by $40.0 million to address these interests. The conservation pillar increased to $146.1 million in the fiscal year 1995 National Defense Appropriations Act.

Pollution Prevention did not receive the full $298.8 million requested by the Administration. The reason the program did not receive full funding is not clear. Both the Congress and the Administration professed that preventing pollution at the source reduces the cost of cleaning in the future. The prevention request, though not fully funded, did increase by over $48.0 million from the previous fiscal year's requests. As pilot demonstration programs and data proving the potential cost savings in this program become apparent, this program may grow.

Environmental Technology, though not a formal pillar, received $8.0 million less than its requested funding. The $290.0 million in Appropriations will assist in RDT&E environmental efforts. The Services' RDT&E accounts all received additional funding for their requests. The largest casualty was the SERDP. The SERDP account was cut dramatically due to its slow obligation rates.

b. Defense Environmental Security Funding Components

Question two: What are the funding components that make up the Defense environmental budget? The answer can be found in all the formal Defense budget accounts. These accounts include the O&M, RDT&E, Procurement, MILCON, and Personnel. However, a few line items facilitate easy tracking of congressional environmental oversight. They include the DERA, BRAC, and SERDP accounts.

A parallel set of funding components is used by DoD in developing the Budget request. This set of components - the environmental pilar concept - is not always addressed by Congress. The reason is unclear since Congress requested the DoD to submit its environmental budget requests in a concise format for better congressional oversight. A possible explanation is that congressional members avoid the pillar process when it is convenient for them to hide special projects under the environmental umbrella. This was most frequently encountered in the Army's *Environmental Quality Technology* account, and involved projects for Hawaii and Pennsylvania.

c. Congressional Committees and Subcommittees

Question three: What congressional committees and subcommittees exercise budget and policy oversight over the Defense environmental budget? Chapter II discussed the Authorization and Appropriations Committees and Subcommittees in the House and Senate providing oversight of the Defense environmental security budget.

In the HASC they are the Readiness Subcommittee, the Subcommittee on Military Installations and Facilities, and the Subcommittee on Research and Development. Other House committees having oversight responsibility on defense environmental issues are the House Energy and Commerce Committee's Subcommittee on Transportation and Hazardous Materials and the House Public Works and Transportation Committee's Subcommittee on Water Resources.

The SASC has several subcommittees monitoring defense environmental issues. They are the Armed Services Subcommittee on Readiness, Sustainability, and Support, and the Subcommittee on Defense Industry and Technology monitor.

The Defense Appropriations Subcommittees of both Houses provide oversight for defense O&M and RDT&E environmental defense matters, including DERA and SERDP. The Appropriations Subcommittees on Military Construction in both Houses provide oversight for the Base Closure Account.

d. Congressional Oversight Trends

Question four: What patterns and trends of congressional support for Defense environmental programs have developed over the past 11 years? In the literature review, several distinct trends became apparent for particular committees in support of particular environmental pillars. The increases in the environmental security budget were not considered in the fiscal year 1992 supplemental budget because both the Authorization and Appropriations Committees recommended increases to the budget. The analysis revolves around the original budget recommendations.

(1) Cleanup. The HASC and SASC proved equally supportive of the environmental restoration budget request. The HASC recommended full funding for the DERA budget request 63 percent of the time in the past 11 years. Over the same period the SASC recommended increases to the account 27 percent of the time and fully funded the budget request 45 percent of the time. The SASC also recommended reductions to the budget request in two consecutive years. However, the reductions occurred in the formative years of the DERA.

The DERA did not receive favorable funding by the HAC. In the past 11 years, the HAC recommended reductions to this account 54 percent of the time while increases were recommended to the DERA account 36 percent of the time. The three instances where the HAC increased DERA funding could have been to make up for the earlier program cuts.

The SAC was the most supportive to the defense environmental restoration process. In six of the past 11 years, the SAC recommended budget increases to the DERA account. In four of those 11 years, or 27 percent of the time, it supported the budget request. The SAC's percentage of increases was offset by the HAC's recommended funding cuts. However, in fiscal years 1994 and 1995, the SAC recommended decreases to this account. The indications are that the SAC is frustrated with the cleanup progress at military installations. The SAC's honeymoon with the DERA could be over.

The DERA is now a maturing account and the initial cleanup push should result in decreased funding requests as previous contaminated sites are restored to remediation standards. It appears that the SAC is frustrated with the slow progress of DoD's cleanup effort. The SAC may be pleased that more funding is being devoted to actual cleanup, but 40 percent of the funding is still required for cleanup studies. The SAC is also concerned with curtailing the overall defense budget. Therefore, the DoD cleanup account will need to become more efficient with its funding and expedite the restoration process.

Table 8 provides a breakdown of funding recommendations for the DERA portion of the cleanup pillar by committee.

YEAR	HASC	SASC	HAC	SAC
1984	N/C	N/C	(-)	+
1985	(-)	N/C	(-)	+
1986	(-)	(-)	+	+
1987	B	(-)	(-)	B
1988	B	B	(-)	+
1989	B	B	B	B
1990	B	B	+	B
1991	N/C	+	+	+
1992	+	+	+	+
1993	B	B	B	B
1994	B	+	(-)	(-)
1995	B	B	(-)	(-)

B = BUDGET REQUEST (-) = DECREASED REQUEST
+ = INCREASED REQUEST N/C = NO COMMENT

Table 8
Cleanup Funding Trends
The Authorization and the Appropriations Committees
Fiscal Years 1984 - 1995.

(2) Compliance. The Compliance pillar was not separately tracked until fiscal year 1990. The funding trends in this pillar are mixed. The HASC supported the compliance request 66 percent of the time, equally divided between increased and full funding. The HASC did not comment on the fiscal year 1994 compliance budget but recommended curtailing funding for the fiscal year 1995 budget. The Committee, however, did fund the budget request.

The SASC recommended increasing the budget request only once. Similar to the HASC, it also recommended reductions in the fiscal year 1995 budget. The SASC made no mention of the compliance pillar in two consecutive years.

The HAC's funding trend resembles that of the HASC. However, it recommended funding the budget request in half of the six budget years.

The SAC was the greatest supporter of the compliance pillar by not recommending funding cuts. It supported the budget request 66 percent of the time and recommended increases to this account in two consecutive years. Table 9 illustrates the funding trends by committee for the compliance pillar.

YEAR	HASC	SASC	HAC	SAC
1990	B	B	B	B
1991	B	B	B	B
1992	+	+	+	+
1993	+	N/C	+	+
1994	N/C	N/C	(-)	B
1995	(-)	(-)	B	B

B = BUDGET REQUEST (-) = DECREASED REQUEST
+ = INCREASED REQUEST N/C = NO COMMENT

Table 9
Compliance Funding Trends
The Authorization and the Appropriations Committees
Fiscal Years 1984 - 1995.

(3) Conservation. Since the conservation pillar was established in fiscal year 1991, it has received positive oversight by the Authorization and Appropriations Committees. The conservation program did not receive comment between fiscal years 1991 through 1994. It is assumed that it

received the full budget request since there is no indication of increase or decrease to this pillar. Overall, the compliance account received favorable funding for 83 percent of the budget submissions. Both the HASC and the SASC recommended the budget request in the fiscal year 1995 budget.

The HAC and the SAC recommended increased funding for this pillar in the fiscal year 1995 budget. Table 10 illustrates the funding pattern for the conservation pillar. The reductions in fiscal year 1994 were part of that year's budget rescission.

YEAR	HASC	SASC	HAC	SAC
1991	N/C	N/C	N/C	N/C
1992	N/C	N/C	N/C	N/C
1993	N/C	N/C	N/C	N/C
1994	(-)	(-)	(-)	(-)
1995	B	B	+	+

B = BUDGET REQUEST (-) = DECREASED REQUEST
+ = INCREASED REQUEST N/C = NO COMMENT

Table 10
Conservation Funding Trends
The Authorization and the Appropriations Committees
Fiscal Years 1990 - 1995

(4) Pollution Prevention. Pollution prevention received positive funding from fiscal year 1991 through fiscal year 1994. It was assumed that it received the full budget request since there is no indication of increase or decrease to this pillar. Both the HASC and the SASC recommended the budget

request in the fiscal year 1995 budget. However, the HAC and the SAC recommended reductions in the overall funding of this pillar. This was the first instance that the SAC did not fully support an environmental pillar.

Table 11 illustrates the funding outcomes for the pollution prevention pillar.

YEAR	HASC	SASC	HAC	SAC
1991	N/C	N/C	N/C	N/C
1992	N/C	N/C	N/C	N/C
1993	N/C	N/C	N/C	N/C
1994	N/C	N/C	N/C	N/C
1995	B	B	(-)	(-)

B = BUDGET REQUEST (-) = DECREASED REQUEST
+ = INCREASED REQUEST N/C = NO COMMENT

Table 11
Pollution Prevention Funding Trends
The Authorization and the Appropriations Committees
Fiscal Years 1990 - 1995.

(5) Environmental Technology. Environmental technology was not a formal environmental pillar, but numerous RDT&E projects are funded through this account. The funding in this area is difficult to track because the Services' RDT&E line items are shared by other pillars.

The most obvious funding trend in the Services' RDT&E account is the full funding of the Army's *Environmental Quality Technology Program* from fiscal years 1984 through 1990. From fiscal years 1991 through 1995, the account received additional funding by all committees and has become the target of special environmental projects. The other Services' RDT&E accounts were generally supported. Since fiscal year 1990, both the Navy and Air Force

accounts have been approved at the budget request or received additional funding. The earmarking of funds for special projects does not appear to be a trend in the Navy or Air Force.

The SERDP line item was easier to track because it is a formal line item established by the SAC. The trend for the SERDP represented overall positive funding until fiscal year 1995. The HASC has supported the SERDP account in every budget year, except fiscal year 1992, when it recommended a reduction. The SASC has also been a champion of this account, recommending increases for three of the five years of the SERDP's existence.

The HAC has been less than enthusiastic in its support of the SERDP. It recommended reductions in this account in fiscal years 1994 and 1995.

The SAC established the SERDP and is the largest supporter of the program. The SAC recommended increases to this account in three of the five years. However, the SAC reduced its funding recommendation in fiscal year 1995. The overall decline in defense spending and the fact that the SERDP has not been able to obligate all its appropriations are possible explanations for this reduction.

Table 12 illustrates the SERDP funding trends.

YEAR	HASC	SASC	HAC	SAC
1991	B	+	B	B
1992	(-)	B	+	+
1993	B	+	B	+
1994	+	+	(-)	+
1995	B	B	(-)	(-)

B = BUDGET REQUEST (-) = DECREASED REQUEST
+ = INCREASED REQUEST N/C = NO COMMENT

Table 12
SERDP Funding Trends
The Authorization and the Appropriations Committees
Fiscal Years 1990 - 1995.

e. Congressional Modification of the Environmental Security Budget

Question five: How did the congressional defense committees address and modify the $5.7 billion budget request? The answer to that question was addressed in Chapter IV. The largest alterations to the budget request were found in the DERA account and the SERDP.

f. Differences Between Congress and the Administration

Question six: What are the important differences between the Congress and the Administration? What are the important differences between the House and Senate Defense committees in this area?

Differences in opinions and view on Defense environmental security can be found in the funding trends illustrated in Chapters III, IV, and V. The answer can also be gleaned from the ways the different committees recommend the funding requests for the environmental pillars.

The HASC appears to be committed to equal treatment of the environmental pillars. This philosophy is shared by the HAC which has also treated all the environmental pillars equally.

The SASC's treatment of the environmental security budget appears to be positive in increasing the funding levels across the pillar spectrum. The SAC also appears to be a big supporter of the environmental security movement. The SERDP initiative, as articulated by Senators Nunn and Gore, gives testimony to the SAC's commitment to and interest in the environment.

g. Environmental Implications For DoD Acquisition

The final question posed in this thesis was: What are the environmental implications for the acquisition of future weapon systems? What has DoD done in tailoring its acquisition policies to consider the environmental consequences in the life-cycle of weapon systems?

The answers to both of these questions were discussed in Chapter V. The congressionally mandated Analysis of Major Weapon Systems will help the DoD focus its currently fragmented policies into a cohesive acquisition package for environmental considerations. The Services have made some innovative progress in promoting pollution prevention initiatives and incorporating environmental life-cycle analysis. It appears, however, that these efforts are not widely known or if they are, they are not widely sought out by decision makers.

B. THE FUTURE IMPACT OF CONGRESS ON THE ENVIRONMENTAL SECURITY BUDGET

The November 1994 election shifted the balance of power in Congress to the Republican Party. This change in power brings changes in attitude and philosophy about how the federal Government should operate. The power shift may also affect the DoD environmental security budget in the future.

The new Republican leaders in the House plan to abolish the position of environmental counsel to the Armed Services Committee created by the 103rd Congress. This move reflects both the Republican vow to cut committee staff and a general perception that environmental issues are not an important part of the military. [Ref. 296]

The debate over "non-defense spending" within the defense budget, which includes environmental issues, is likely to intensify. The new Congress has vowed to abolish unnecessary federal programs and curb government spending. Non-defense spending accounts for DoD have grown over the past several years. For example, virtually four-fifths of the increase in the fiscal year 1995 O&M account was swallowed up by environmental cleanup and compliance programs. [Ref. 297]

The Republican-led Congress will have difficulty in curbing environmental programs since much of the of the work is mandated by law. However, there are indications that the first item for funding cuts would be the Defense Environmental Restoration Account. The DERA account for fiscal year 1996 has been requested at $1.6 billion. The entire environmental security request has been requested at approximately $5.0 billion, $.3 billion less than fiscal year 1995 funding. [Ref. 298]

C. AREAS FOR FURTHER RESEARCH

Congressional oversight coupled with public concern over environmental issues will continue. The concerns about controlling the national deficit place great pressure on all DoD programs, especially those which are perceived as being marginal to national security.

Areas for further research include:

- A cost/benefit study of the Environmental Life-Cycle Analysis of Major Weapon Systems programs and determination of whether savings were actually achieved once environmental costs were included.
- Congressional oversight of the Department of Energy's environmental funding and the progress made in cleaning up the U.S. chemical and nuclear arsenals.
- The impact of contractor liability, surety bonds, and indemnification on the Defense environmental restoration process.

D. SUMMARY

As Albert Einstein so eloquently stated: "The significant problems we face cannot be solved at the same level of thinking we were at when we created them." [Ref. 299]

Undoubtedly, the Congress and DoD face some difficult choices in the future. The base closure process, maintaining defense readiness during a drawdown period, and incorporating environmental issues into daily operations including the acquisition process are just a few of the problems the Congress and DoD must resolve.

The barriers to cleaning up the environmental problems of the past are not insurmountable. The initiatives started by DoD to prevent pollution and comply with environmental laws will force members of DoD to consider the environmental consequences of their decisions.

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